



Socio-economic impact assessment and working paper

Hillsborough Road

Transport

14 October 2022

→ **The Power of Commitment**





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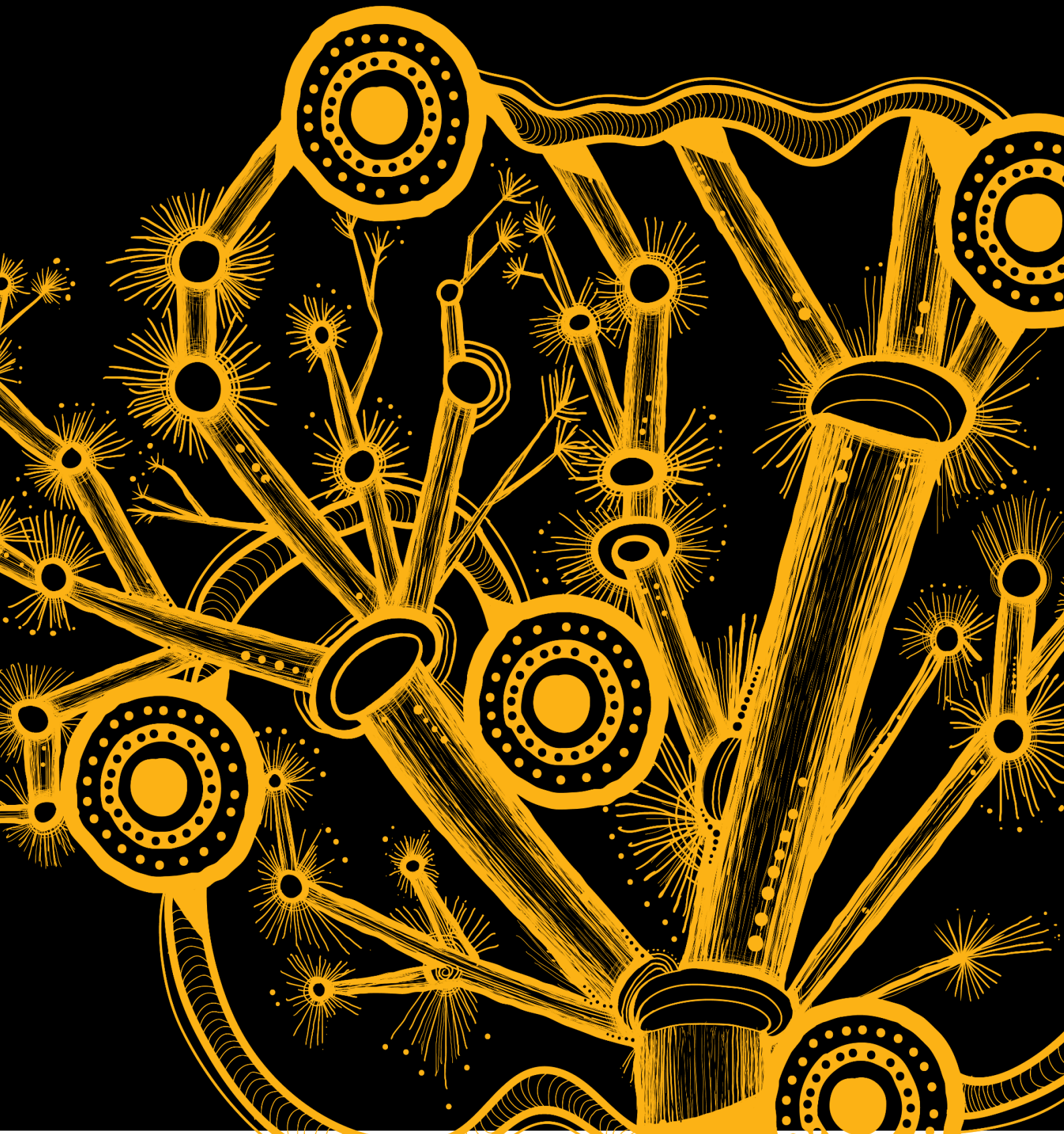
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Acknowledgement of Country

GHD acknowledges Aboriginal and Torres Strait Islander peoples as the Traditional Custodians of the land, water and sky throughout Australia on which we do business. We recognise their strength, diversity, resilience and deep connections to Country. We pay our respects to Elders of the past, present and future, as they hold the memories, knowledges and spirit of Australia. GHD is committed to learning from Aboriginal and Torres Strait Islander peoples in the work we do.



Executive summary

Transport for NSW is proposing to duplicate about 1.8 kilometres of Hillsborough Road to provide four lanes between the Newcastle Inner City Bypass (NICB) to the east extending through to the existing duplication about 300m west of Crockett Street ('the proposal'). This Socio-economic Impact Assessment (SEIA) has been prepared as part of the review of environmental factors (REF) for the proposal and aims to identify and evaluate the potential social impacts and benefits resulting from the project. This SEIA has been prepared in accordance with the *Environmental Impact Assessment Practice Note: Socio-economic Assessment* (TfNSW, 2020a). The methodology for the assessment is described in Section 2.

The methodology for the SEIA has included determining a social locality (i.e. the communities potentially affected by the project), preparing a social baseline, and targeted consultation with key local and regional stakeholders to understand the potential social impacts and benefits, and inform appropriate mitigation measures.

The key social benefits of the proposal are primarily related to the improved safety, improved travel times and reduced congestion resulting from overall traffic flow improvements. SEIA consultation found that traffic efficiency measures were desired by the community and businesses for Hillsborough Road and that the existing traffic volumes and conditions have led to unsafe or illegal behaviours by road users caused by frustration.

During consultation, business owners within the study area noted they had previously experienced reduced trade during the construction of the NICB and had similar concerns relating to the construction of the proposal. Concerns expressed by businesses related primarily to access and amenity during the construction period and permanent changes or reduction to parking availability.

The proposal would include a solid median barrier for the full length of the proposal which would change access to some streets and properties along the proposal alignment during construction and operation. The removal of the right in/right out access for businesses on the southern portion of Hillsborough Road (including the Combined Canine North Committee Showgrounds and Shed Quarters) was found to likely result in some inconvenience during operation. While a left out only access to and from these businesses would be inconvenient for some employees and visitors, the proposed U-turn facility was generally viewed as a safer and appropriate solution to access to Hillsborough Road.

The SEIA has identified the following mitigation measures for the proposal to minimise potential social impacts, and to enhance social benefits:

- Develop a Community Communication Strategy – this is currently being implemented by Transport, and would continue to share information with communities and businesses about the proposal.
- Construction Communication Plan will be prepared and implemented as part of the construction environmental management plan (CEMP) – prepared by the construction contractor to ensure that residents and stakeholders are notified in a timely manner about construction activities and potential for impacts, and would include a complaints mechanism.
- Property acquisition plan - Consultation will continue to be carried out with each landowner and resident throughout the acquisition process, in accordance with Transport policy and the *Land Acquisition (Just Terms Compensation) Act 1991* and the reforms announced in October 2016.
- Provide opportunities for local and Aboriginal employment and procurement.

This report is subject to, and must be read in conjunction with, the purpose of the report outlined in section 1.4 and the limitations set out in section 2.2.7, along with other assumptions and qualifications contained throughout the Report.

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1. Introduction

1.1 Overview

Transport for NSW is proposing to duplicate about 1.8 kilometres of Hillsborough Road to provide four lanes between the Newcastle Inner City Bypass (NICB) to the east extending through to the existing duplication about 300m west of Crockett Street ('the proposal'). The proposal includes signalling the Crockett Street, Barker Avenue, and Chadwick Street intersections as well as other safety improvements.

For the purposes of these works, Transport is the proponent and the determining authority under Division 5.1 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

This Socio-economic Impact Assessment (SEIA) has been prepared by GHD Pty Ltd (GHD) as part of the review of environmental factors (REF) for the proposal.

1.2 Background

Hillsborough Road is an east-west link road, connecting Charlestown Road, Charlestown in the east and King Street, Warners Bay in the west. It acts as an important commuter route, connecting the urban centres of Charlestown and Warners Bay, as well as providing access to and from the Newcastle Inner City Bypass (NICB). Between the NICB and Crockett Street Hillsborough Road is predominantly a two-lane, undivided road. The section experiences high volumes of traffic which leads to congestion during morning and afternoon peak times.

1.3 The proposal

Transport proposes to duplicate Hillsborough Road between the Newcastle Inner City Bypass roundabout in the east, to about 300 metres west of Crockett Street, with a total distance of about 1.8 kilometres. The objectives of the proposal are to:

- Improve travel reliability and travel times along Hillsborough Road in the peak periods
- Improve access to / from the suburbs of Hillsborough and Cardiff South
- Provide a road network which can cater for future traffic growth
- Reduce the impact of incidents on traffic
- Improve road safety (reduce fatalities and serious injuries)
- Provide a safe road environment which caters for vulnerable users

1.3.1 Location

Hillsborough Road is about 10.5 kilometres south-west of Newcastle, within the Lake Macquarie Local Government Area (LGA). The proposal is located within the section of Hillsborough Road from the Newcastle Inner City Bypass roundabout, in Hillsborough, passing through Cardiff South to a tie in point west of Crockett Street, in Warners Bay. The area is comprised of a mix of residential, recreational, industrial and conservation land uses. The area between business park and Crockett Street is zoned as Environmental Conservation (C2), as shown in Figure 1.1. The main features within the proposal area and surrounds include but are not limited to:

- Residential areas within the suburbs of Hillsborough & Cardiff South
- Shed Quarters
- Combined Northern Canine Club Showgrounds (CNCC)
- Warners Bay Business Park
- Charlestown Golf Course

1.3.2 Land acquisition

Partial property acquisition will occur along the road alignment. For example, parts of the area between business park and Crockett Street is owned by the Awabakal Local Aboriginal Land Council (LALC), and is subject to partial property acquisition. Partial property acquisition is also proposed at businesses adjacent to the project area, including at Britar Storage, Shed Quarters, and CNCC Showgrounds. This acquisition would involve a small strip of the property along the road alignment. For the Warners Bay Home commercial centre, partial property acquisition is proposed for a small area north of the commercial development. Partial property acquisition is also proposed at two residential properties, which involves a small area at each, both under 41m². For one property, this area is outside of the property fencing, for the other, the area is within the property fencing in the yard. Construction of the project would require temporary leasing of land, or other arrangement for temporary use of land for ancillary facilities such as construction compounds and for the completion of other work. This would occur for some residential and non-residential properties.

1.3.3 Key features of the proposal

The project involves the lane duplication of Hillsborough Rd to a four-lane carriageway between the Newcastle Inner-city Bypass and Warners Bay Commercial Centre, a distance of approximately 1.8 km.

The key features of the proposal are shown in Figure 1.1. Further information is provided in chapter 3 of the REF. Key features of the proposal include:

- Duplication of about 1.8 kilometres of Hillsborough Road from the NICB roundabout west to a tie in point about 300 metres west of Crockett Street.
- Two lanes each a minimum 3.3 metre wide each way with a solid central median barrier.
- Posted speed of 60 kilometres per hour.
- New traffic lights at the Chadwick Street intersection including pedestrian crossings.
- Modification of Higham Road intersection.
- New traffic lights at the Baker Avenue intersection including pedestrian crossing.
- U-turn bay on Barker Avenue.
- Access gates to be relocated beyond u turn facility.
- New traffic lights at the Crockett Street intersection including pedestrian crossings.
- Provision for on road cyclists within shoulder in both directions.
- Off road concrete shared path on the northern side tying into existing path.
- Upgraded bus stop facilities on Hillsborough Road at Crockett Street intersection, Chadwick Street intersection and on Crockett Street. All bus stops are to have shelters with the exception of the southbound bus lay over on Crockett Street.
- Culvert widening on Winding Creek both up stream and down stream of existing culvert structure.
- Culvert widening and full replacement of existing culvert between Crockett Street and Baker Avenue.
- New separated left in only entry and left out only exit for the CNCC Showgrounds located east (entry) and west (exit) of Chadwick Street intersection.
- Maintained access to the Hillsborough Road fire trail opposite Crockett Street.
- Left in / left out only access from existing business fronting Hillsborough Road, east of the CNCC Showgrounds.
- Left in / left out only access to residences on Hillsborough Road, east of CNCC Showgrounds.
- Relocation of utilities including, telecommunications, water, power, street lighting and minor adjustments to sewer infrastructure.
- New as well as upgraded street lighting on Hillsborough Road.
- Reinforced concrete retaining walls including facing panels.
- Site investigations, including but not limited to geotechnical investigations.
- Installation of fauna connectivity structures, such as rope crossings.
- Minor property acquisition and adjustments including fencing, access and driveway adjustments.

- Site preparation works, including establishing ancillary facilities, vegetation clearing, site fencing, temporary drainage measures, and implementation of environmental management measures.
- Temporary construction facilities, including site compounds and stockpile sites at the former Whalan's Nursery site– Hillsborough Road, and at vacant commercial buildings within the Warners Bay Commercial Centre – Accessed by northern commercial access road of Hillsborough Road.

1.3.4 Construction overview

An indicative construction strategy has been developed, based on the current design, to be used as a basis for the environmental assessment process. Detailed construction planning, including programming, work methodologies and work sequencing would be undertaken once construction contractor(s) have been engaged and during detailed design.

Construction workforce

The construction workforce would fluctuate, depending on the stage of construction and associated activities. The workforce would be expected to be between about 35 and 40 personnel at any given time during the construction period. The final number of construction workers would be identified by the construction contractor.

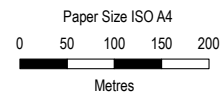
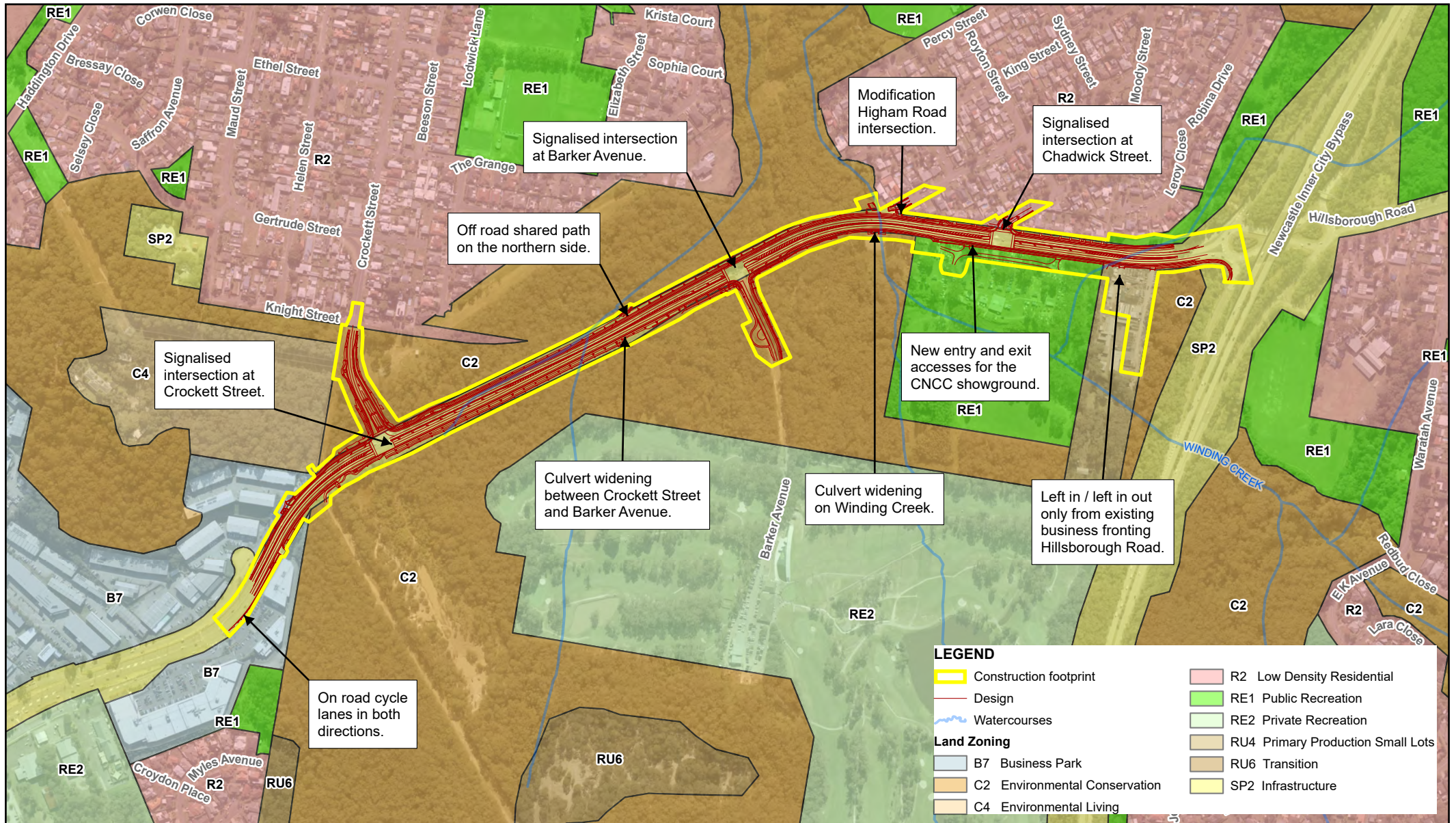
Timing and work phases

Construction of the proposal is anticipated to take about 18 months to complete, depending on final staging arrangements. The proposal may be delivered in stages, depending on funding arrangements.

Ancillary facilities

The preliminary ancillary facilities would be selected based on proximity to the proposal, sensitive receivers, and environmentally sensitive land. Construction ancillary facilities would include a compound area, site offices, plant and equipment storage, materials stockpiling, and staff car parking. Ancillary sites are proposed to be located at the former Whalans Nursery site (68 Hillsborough Road), intersection of Crockett Street and Knight Street, and within vacant commercial buildings at the Warners Bay commercial centre where practical.

Further information on how the proposal would be constructed is provided in section 3.3 of the REF.



Map Projection: Transverse Mercator
 Horizontal Datum: GDA2020
 Grid: GDA2020 MGA Zone 56

Transport for NSW
 Hillsborough Road Upgrade Concept Design
 Social Impact Assessment

Project No. 12544418
 Revision No. 0
 Date 14 Oct 2022

Proposal key features

FIGURE 1.1

1.4 Purpose and scope of this report

The purpose of this report is to assess the potential socio-economic impacts of constructing and operating the proposal and where required, identify feasible and reasonable management and mitigation measures. The report:

- Describes the existing environment with respect to land use, property and socio-economic values
- Assesses the potential impacts of constructing and operating the proposal on communities
- Recommends measures to mitigate and manage the impacts identified

This socio-economic impact assessment (SEIA) has been prepared in accordance with the *Environmental Impact Assessment Practice Note: Socio-economic Assessment* (referred to as the SEIA Practice Note) (TfNSW, 2020a). The methodology for the assessment is described in Section 2.

1.5 Structure of this report

The structure of this SEIA is outlined below.

- Section 1 – introduces the report and includes a description of the proposal
- Section 2 – describes the context and methodology for the assessment
- Section 3 – provides the legislative and policy context for the proposal
- Section 4 - summarises the stakeholder consultation activities undertaken for the proposal and key themes relevant to this SEIA
- Section 5 – describes the existing social environment for the local and regional and study area
- Section 6 – identifies the potential social impacts arising from the construction of the proposal
- Section 7 – identifies the potential social impacts arising from the operation of the proposal
- Section 8 – identifies the potential cumulative impacts of the proposal
- Section 9 – provides recommended impact management and mitigation measures
- Section 10 – provides a conclusion

2. Methodology

2.1 Approach to this assessment

This SEIA has been prepared in accordance with a moderate level of assessment under the *Environmental Impact Assessment Practice Note: Socio-economic assessment* (TfNSW, 2020a). The following sections describe the SEIA methodology.

2.2 Steps to prepare this SEIA

The sections below describe the tasks undertaken during the SEIA scoping and SEIA report stages.

2.2.1 Scoping of social issues

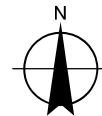
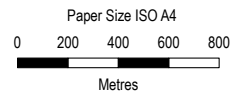
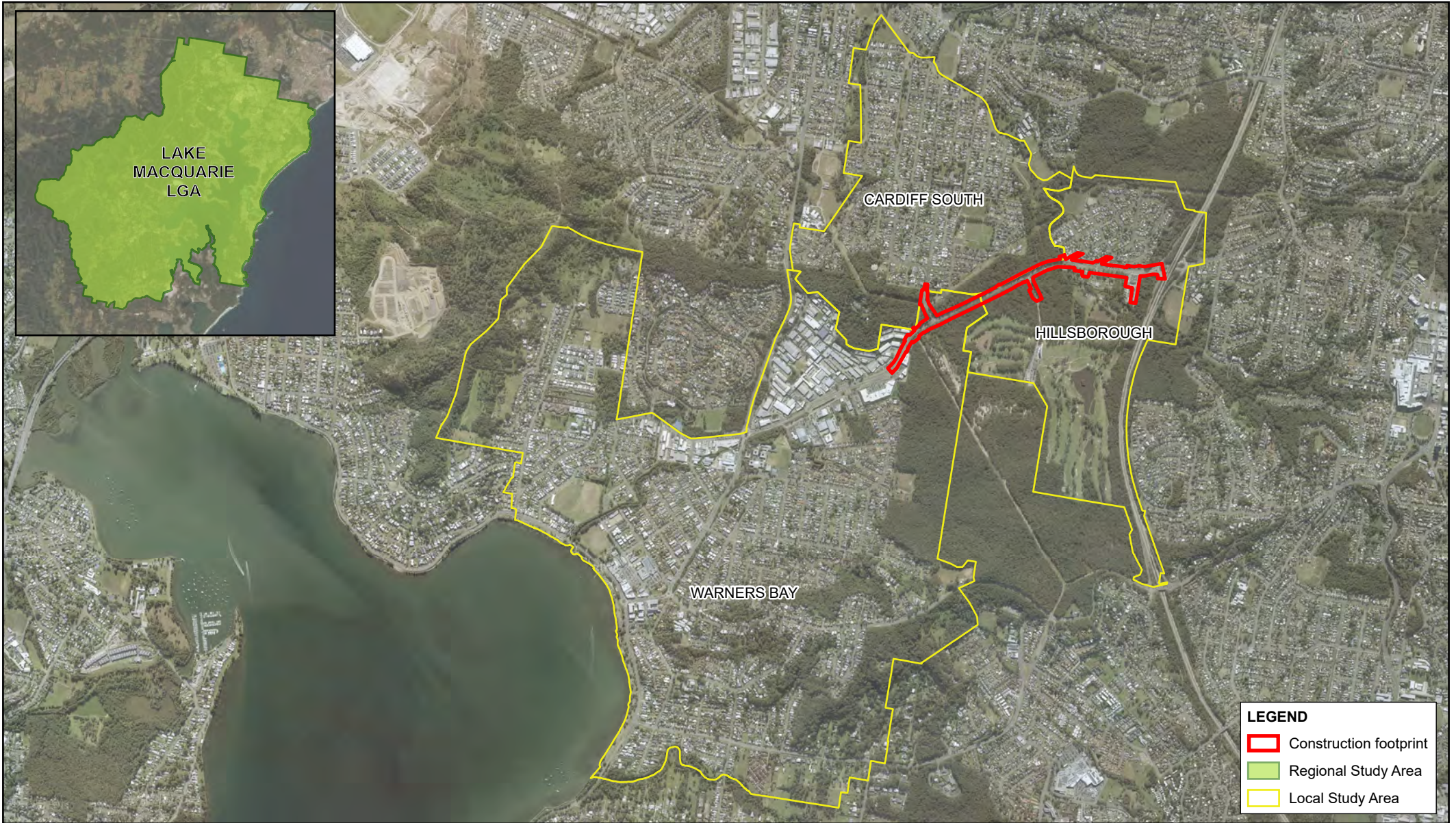
A review of the proposal description was undertaken to determine the scope and extent of the potential socio-economic impacts. This was captured in the scoping checklist (Appendix A). The scoping checklist was completed based on a review of the proposal design and activities which would occur during construction and operation, and the potential for cumulative impacts. This informed the understanding of potential socio-economic effects, such as changes to local amenity, access and connectivity, community infrastructure facilities and community values (see Figure 2.1).

2.2.2 Determining the study area

The study area for the SEIA includes the communities that are most likely to experience socio-economic impacts and benefits resulting from the proposal. The study area includes a local and regional study area, as outlined in Table 2.1 and shown in Figure 2.1.

Table 2.1 Socio-economic study area

Socio-economic study area	Area (Census area)	Definition
Local study area	Hillsborough State Suburb (SSC11909)	The proposal site is located in Hillsborough, Cardiff South and Warners Bay State Suburbs.
	Cardiff South State Suburb (SSC10811)	Private residents and businesses within Hillsborough and Cardiff South who access their properties from Hillsborough Road are considered most likely to experience potential impacts from construction and operation of the proposal. This includes some businesses who may undergo partial property acquisitions. The proposal area includes a small area of a business park in Warners Bay. These businesses are not expected to experience significant social impacts from the construction and operation of the proposal. As such, the focus of the social baseline will be on Hillsborough and Cardiff South.
	Warners Bay State Suburb (SSC14153)	
Regional study area	Lake Macquarie LGA (LGA14650)	The proposal site is located in the Lake Macquarie LGA. Communities across the LGA may experience some regional impacts and benefits during construction and operation of the proposal.



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Map Projection: Transverse Mercator
Horizontal Datum: GDA2020
Grid: GDA2020 MGA Zone 56

Study area

FIGURE 2.1

2.2.3 Establishing the social baseline

The social baseline establishes the current social characteristics within the social locality for the SEIA. The social baseline is used to inform the prediction of the potential social benefits and impacts of the proposal. A social baseline has been prepared for the local study area and regional study area.

The local study area baseline describes:

- Key features, local amenity and character of the proposal area and surrounds
- Select demographic and economic indicators for the Hillsborough, Cardiff South and Warners Bay State Suburbs compared to Lake Macquarie LGA

The regional study area baseline describes:

- Demographic indicators
- Access and connectivity
- Community values and priorities
- Economic and employment profile

Data to inform the social baseline has been gathered from the following sources:

- Australian Bureau of Statistics (ABS) Census, 2016 (ABS, 2016)
- REMPLAN economic and demographic data (REMPPLAN, 2022)
- PHIDU Social Health Atlases (PHIDU, 2022)
- Local, State and Australian Government websites and publications
- Various online sources
- Information from stakeholder consultation

A list of sources used to inform this SEIA is provided in section 11.

2.2.4 Stakeholder consultation

Transport has been engaging with community and stakeholders throughout the proposal planning, scoping and design process. Chapter 5 of the REF describes these activities and the stakeholders that have been consulted and provides a summary of the issues raised. An overview of relevant issues that have been considered in the assessment of potential social impacts is provided in Section 4.

The SEIA team also undertook targeted consultation with several stakeholders. SEIA-specific consultation involved interviews via telephone between March and October 2022. Section 4 presents a summary of the consultation activities and outcomes relevant to this assessment.

The purpose of SEIA-specific consultations was to validate and gather additional information to inform the development of the social baseline, the identification of potential socio-economic benefits and impacts, and development of recommended mitigation and management measures. The stakeholders consulted for the SEIA were identified because they would have the potential to experience positive or negative social impacts as a result of the proposal, or because they represent communities and stakeholders who would potentially experience impacts.

2.2.5 Impact identification and assessment

This SEIA identifies and assesses the potential socio-economic benefits and impacts of the Hillsborough Road upgrades. Potential impacts have been identified and described based on the initial scoping of potential socio-economic issues (Appendix A), understanding of the existing socio-economic environment (Section 4), results of stakeholder consultation (Section 4), and a review of other technical studies and chapters prepared for the REF.

Socio-economic impacts as a result of construction and operation of the proposal have been assessed in sections 6 and 7. In addition, cumulative impacts have been assessed in Section 8, taking into account other projects that have been approved but where construction has not yet commenced, projects that have commenced construction, and projects that have been recently completed in the surrounding area.

The socio-economic impacts have been categorised based on the *Environmental Impact Assessment Practice Note Socio-economic assessment* (TfNSW, 2020a) (the Practice Note). For this SEIA, the matters to be considered according to the Practice Note have been grouped into categories to ensure they are relevant to the nature of the proposal. The social impact categories are outlined in Table 2.2.

Table 2.2 Socio-economic impact categories

Socio-economic impact category	Matters to be considered
Property and land use	Changes that relate to the partial or complete acquisition of residential and commercial land. This can impact people's way of life due to relocation or changes to property or business.
Access and connectivity	Changes to how people move about an area for day-to-day activities. Changes to access can impact people's way of life, access to their place of work and community services, facilities and social networks, community cohesion and perceptions about safety.
Amenity and character	Changes to the acoustic, air quality or visual environment as a result of the proposal. Changes to amenity can impact people's way of life, and what people value about their community. This has considered the social impacts on residents and general community members.
Economy, business and employment	High-level benefits and impacts on the local and regional economy, including business development and employment opportunities. Social implications of impacts to businesses resulting from property acquisition, and changes to access and amenity. This includes how business owners, employees and customers are affected by these changes. Social implications of changes to job availability and employment resulting from impacts on businesses.

The significance assessment considers the level of sensitivity of receptors and the magnitude of the proposed changes based on the information available at the time research undertaken to prepare this SEIA, other technical studies and review of consultation outcomes undertaken by Transport.

For negative impacts, sensitivity refers to the qualities of the receptor that influence its vulnerability to change and capacity to adapt. In this context, the receptor may include the environmental characteristics, communities, businesses, business clusters, social infrastructure or residences. Table 2.3 describes the levels of sensitivity for negative impacts.

Table 2.3 Level of sensitivity

Sensitivity	Example
Negligible	No vulnerability and able to absorb or adapt to change.
Low	Minimal areas of vulnerability and a high ability to absorb or adapt to change.
Moderate	A number of vulnerabilities but retains some ability to absorb or adapt to change.
High	Multiple vulnerabilities and/or very little capacity to absorb or adapt to change.

Magnitude refers to the scale, duration, intensity and scope of the proposal including how it would be constructed and operated. Qualities of magnitude include, but are not limited to:

- Scale and intensity (the types of works, operational uses and built form etc.)
- Spatial extent (e.g. the geographical area affected, which may be local, suburb, regional, State, International or to community groups etc.)
- Duration (short, medium or long-term, hours of works, frequency, reversibility etc).

The levels of magnitude are set out in Table 2.4.

Table 2.4 Level of magnitude

Magnitude	Example
Negligible	No discernible positive or negative changes caused by the impact. Change from the baseline remains within the range commonly experienced by receptors.
Low	A discernible change from baseline conditions. The tendency is that the impact is on a small proportion of receptors over a limited geographical area and mainly within the vicinity of the proposal. The impact may be short term or some impacts may extend over the life of the proposal.
Moderate	A clearly noticeable difference from baseline conditions. The tendency is that the impact is on a small to large proportion of receptors and may be over an area beyond the vicinity of the proposal. The duration may be short to medium term or some impacts may extend over the life of the proposal.
High	A change that dominates over existing baseline conditions. The change is widespread or persists over many years or is effectively permanent.

Table 2.5 is used to assess the level of significance of the potential impacts. This is done by combining the level of sensitivity and magnitude.

Table 2.5 Assessing the level of significance

Magnitude		High	Moderate	Low	Negligible
Sensitivity	High	High	High-Moderate	Moderate	Negligible
	Moderate	High-Moderate	Moderate	Moderate-Low	Negligible
	Low	Moderate	Moderate-Low	Low	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

The level of impact within this SEIA has considered the implementation of recommended mitigation and management measures as outlined in Section 9 and those identified in other relevant technical studies prepared for the REF.

2.2.6 Recommended socio-economic impact mitigation measures

Specific mitigation and management measures developed to avoid or minimise the socio-economic impacts are identified in Section 9. These were formulated based on the findings of the socio-economic baseline study, results of stakeholder consultation, and the outcomes of the impact assessment. They have been developed using adaptive management principles, recognising that impacts may change over time, and that ongoing monitoring of impacts would provide the flexibility to accommodate such changes.

Other technical studies from the REF have been considered with regard to the effect or specific mitigation measures identified in those studies which contribute to mitigating potential socio-economic impacts identified in this report. These measures can be found in the technical components of the REF.

2.2.7 Limitations

This report: has been prepared by GHD for Transport and may only be used and relied on by Transport for the purpose agreed between GHD and Transport as set out in sections 1.4 and 2.2.7 of this report.

GHD otherwise disclaims responsibility to any person other than Transport arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer section 1.4 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.

Limitations to methodology

The 2021 ABS Census data set was not available at the time of writing this report, therefore the social baseline has been developed using 2016 ABS Census data. Where available, more recent data has been reported in the social baseline, with sources and dates sited.

3. Legislative and policy context

The following sections summarise the Commonwealth and State legislation and policies, and local government policies and plans relevant to this SEIA.

3.1 Commonwealth and state legislation, strategies, and policies

Table 3.1 summarises Commonwealth legislation relevant to this assessment.

Table 3.1 Commonwealth and state legislation, strategies and policies

Title	Description and relevance to this SEIA
<i>Disability Discrimination Act 1992</i> (Commonwealth)	The <i>Disability Discrimination Act 1992</i> (Commonwealth) is designed to protect people with disability from discrimination. This SEIA considers the changes to the existing environment that may affect accessibility. It also highlights any impacts that may affect vulnerable groups, including those who experience disability.
<i>Hunter Regional Plan 2036</i> (NSW Government, 2016)	<p>The proposal would connect key centres, Charlestown and Warners Bay, within the Hunter Region. The plan sets out that better connectivity between key centres in the region would support links between labour force and global markets. The plan recognises Charlestown as a strategic centre, and Warners Bay as a centre of local significance.</p> <p>The proposal would duplicate and widen an existing road that is highly utilised by motorists. The duplication would increase the roads efficiency and capacity. Direction 26 of the plan acknowledges that population and economic growth is enabled and supported by infrastructure. This is seen to be actioned by infrastructure planning to maximise use and capacity of existing infrastructure.</p>
<i>Greater Newcastle Metropolitan Plan 2036</i> (DPE, 2018)	<p>The <i>Greater Newcastle Metropolitan Plan 2036</i> aims to set out strategies and actions that will drive sustainable growth across Cessnock City, Lake Macquarie City, Maitland City, Newcastle City and Port Stephens communities.</p> <p>The proposal will help achieve the plan’s goal of a connected community by providing improved access between key areas including, the identified strategic centres of Charlestown and Cardiff.</p>
<i>Transport Sustainability Plan</i> (TfNSW, 2021a)	This plan provides a vision for integrated sustainability for transport systems, processes and structures through set focus areas and goals. Goals set out for the focus area of “procure responsibly”, include to go beyond minimum compliance targets in the Aboriginal Procurement Policy. This proposal provides opportunity for Aboriginal procurement during the construction works and along the supply chain. Goals set out for “partner with communities” include to leave a positive legacy for communities as a result of projects, and to enable, apply and report on community engagement. Community and stakeholder engagement is being carried out for the proposal, where feedback has resulted in project refinements at the strategic design stage. Ongoing engagement will be required to carry out land acquisition discussions, as well as notification and coordination of construction impacts, such as change to access, noise impacts, and traffic changes. The area of “empower customers to make sustainable choices” including to reducing private car use. The proposal would provide a more connected and continuous cycleway and a shared footpath, which would encourage active transport.
<i>Future Transport 2056 Strategy</i> (TfNSW, 2020b)	<p>The <i>Future Transport 2056 Strategy</i> is a suite of strategies and plans that set the 40-year vision, directions and principles for customer mobility in NSW, guiding transport investment over the longer term. One of the six principles within the strategy includes ‘successful places’, through enhancing liveability and amenity through transport initiatives. Safe and easy connectivity of places and spaces contributes to strong communities and the creation of successful places. The proposal will provide an improved experience along a key east-west link, that would provide benefit to motorists, cyclists, bus passengers and pedestrians.</p> <p>The ‘safety and performance’ principle is set out to work towards a target of zero trauma on the transport system by 2056. Initiatives to achieve this is through better performing systems, and prioritising safety during planning, design, construction, management and operation of major transport projects. The proposal will improve the performance of a busy road, with safer, more reliable, and higher performing infrastructure.</p>

3.2 Local and regional policies and plans

This section provides a summary of the relevant plans and policies for the Lake Macquarie LGA. Community strategic plans describes the community's vision and long-term aspirations for an LGA and defines a council's related goals, strategies and actions. The plans and policies relevant to the Lake Macquarie LGA and this SEIA are outlined in Table 3.2.

Table 3.2 Local government policies and plans

Community plan	Description and relevance to this SEIA
<p><i>Lake Macquarie City Community Strategic Plan 2017-2027 (LMCC, 2017)</i></p>	<p>The proposal is located in Lake Macquarie LGA and would provide improved transport safety and efficiency, for both private motorists and active and public transport. Safety and ease of movement through the provision of appropriate road infrastructure is established as an action within this plan. The provision of active transport infrastructure and public transport is also seen to contribute to achieving mobility and accessibility within the LGA.</p> <p>The proposal may also have direct and indirect impacts to nearby businesses, as well as contractors in the area. A priority set out in the plan is to support a diverse economy, where promoting an environment for small- to medium businesses is seen to contribute to this direction.</p>
<p><i>Shaping the Future: Local Strategic Planning Statement (LSPS) (LMCC, 2019)</i></p>	<p>The proposal is located in Lake Macquarie and would provide a shared path and on road cycling lanes in both directions. These cycleways would connect with the existing cycling network. The LSPS identifies the aspiration to encourage active transport as a desirable way to move around the city. Improving safety by providing physical separation between cars and cyclists is seen to encourage cycling as a mode of transport.</p> <p>The proposal would also provide improved transport safety and efficiency within the LGA, for both motorists, and for active and public transport. The LSPS identifies public transport as a desirable way to move around the city and supports improved infrastructure to encourage this. The LSPS recognises Hillsborough Road to support high capacity, high frequency public transport.</p>

4. Stakeholder consultation

This section provides an overview of consultation undertaken for this SEIA, and wider consultation for the REF undertaken. Relevant outcomes have been identified with reference to where they are addressed in this SEIA.

4.1 SEIA consultation outcomes

This section presents a summary of the key social issues and opportunities identified by stakeholders consulted by the SEIA team in March and April 2022. A summary of stakeholder consultation and an overview of engagement activities is provided in Table 4.1.

One business, Whalan's Nursery, has not included in consultation at this time due to the business currently closing. Consultation with the lessor (Shed Quarters) for Whalan's Nursery was included as representative for business at the location. Several attempts were made to consult with Ambulance NSW to discuss potential impacts to emergency services, however these attempts were unsuccessful, as such there are no outcomes available for this stakeholder. Impacts to emergency services were discussed with Fire and Rescue NSW, and these are described in the summary provided in Table 4.2.

Table 4.1 Summary of SEIA consultation activities

Stakeholder group	Stakeholders consulted	Timing	Overview of consultation activity
Local government	Lake Macquarie City Council	March 17, 2022, via MS Teams	<ul style="list-style-type: none"> – Understand community sentiment, character, lifestyle, and values – Confirm social baseline – Discuss potential impacts during construction and operation of the proposal (i.e., amenity and traffic) – Gain insight of proposal in planning context – Discuss opportunities to mitigate negative impacts and enhance potential benefits – Understand Council concerns and aspirations
Local businesses	Charlestown Golf Club	March 21, 2022, via telephone	<ul style="list-style-type: none"> – Understand local businesses concerns and aspirations – Discuss any construction impacts, such as change to amenity (noise etc.), additional traffic, disruptions to road use – Discuss opportunities to mitigate negative impacts and enhance potential benefits
	Shed Quarters	March 21, 2022, via telephone	<ul style="list-style-type: none"> – Understand local businesses concerns and aspirations – Discuss any construction impacts, such as change to amenity (noise etc.), additional traffic, disruptions to road use – Discuss opportunities to mitigate negative impacts and enhance potential benefits – Discuss potential impacts from potential land acquisition and use of property for compound area
	Combined Northern Canine Committee (CNCC) Showgrounds	March 28, 2022, via telephone	<ul style="list-style-type: none"> – Understand local businesses concerns and aspirations – Discuss any construction impacts, such as change to amenity (noise etc.), additional traffic, disruptions to road use – Discuss opportunities to mitigate negative impacts and enhance potential benefits – Discuss potential impacts from potential land acquisition and use of property for compound area

Stakeholder group	Stakeholders consulted	Timing	Overview of consultation activity
	Britar Storage (formerly 'Tops in Town')	May 5, 2022, via telephone	<ul style="list-style-type: none"> – Understand local businesses concerns and aspirations – Discuss any construction impacts, such as change to amenity (noise etc.), additional traffic, disruptions to road use – Discuss opportunities to mitigate negative impacts and enhance potential benefits – Discuss potential impacts from potential land acquisition and use of property for compound area
Emergency services	Fire and Rescue NSW	May 12, 2022, via MS Teams	<ul style="list-style-type: none"> – Understand capacity of the emergency service – Discuss potential impacts to emergency services during construction and operation of the proposal e.g., access and traffic changes – Understand potential concerns and aspirations – Discuss opportunities to mitigate potential negative impacts and enhance potential benefits
Indigenous stakeholders	Awabakal LALC	<p>General project meetings held between 12th Feb 2021 – 4th Feb 2022 with representatives of LALC to discuss the following:</p> <ul style="list-style-type: none"> – Project update – Proposed concept design/traffic – Property acquisition – Aboriginal cultural heritage investigations 	<ul style="list-style-type: none"> – Discuss potential impacts from partial property acquisition – Discuss potential impacts and opportunities for Aboriginal communities

4.1.1 Key themes and issues

The key issues and themes raised by stakeholders consulted for the SEIA are shown in Table 4.2.

During SEIA consultation, the 2021 preferred option of the proposal was referred to during discussions with stakeholders to understand potential impacts, which is reflected in the SEIA consultation key themes provided in Table 4.2. Some design aspects have now been changed as a result of feedback from stakeholders throughout the EIS process. The design changes that relate to the SEIA consultation discussion include the following:

- The 2021 preferred option proposed left in/left out only at the Hillsborough Road and Barker Avenue intersection. The current proposal design now includes a signalised intersection at Barker Avenue and Hillsborough Road, allowing right in/right out turns, as well as a turnaround bay along Barker Avenue. The intersection and turnaround bay would provide formal turnaround facilities for eastbound motorists exiting Charlestown Golf Club, CNCC Showgrounds, Britar Storage and Shed Quarters.
- The 2021 preferred option proposed to replace the intersection of Higham Road and Hillsborough Road with a cul-de-sac. The current proposal design now provides left-out only access to Hillsborough Road.

Table 4.2 Key themes and issues raised in SEIA consultation

Key issue	Description	Where addressed in SEIA
Access and connectivity	<ul style="list-style-type: none"> – Some Hillsborough residents have voiced concerns about the need for better access from local streets onto Hillsborough Road, and the new road design would be a suitable solution. – There is currently a gap in the Lake Macquarie cycling network and safe cycleway connectivity between King Street roundabout and Crockett Street. The new road design would help to fill this gap. – Concern about safe access to the bus stop on Crockett Street and the southern side of Hillsborough Road during the construction phase. – Concerns raised regarding the existing access to some bus stops on the southern side of Hillsborough Road as the existing arrangement does not provide a formal pedestrian crossing. – Shared path and access to bus stops in new road design would be beneficial to the local community and cyclists. – Partial land acquisition would inconvenience staff and visitors through reduced parking availability and vehicle movement (e.g. U-turns) on the road shoulder, including for customers/visitors at the businesses located on Hillsborough Road. – Partial land acquisition at the CNCC Showgrounds would require moving the showground boundary fence away from the road, reducing the property size and the land available for large vehicles to park. This area is the only area on the property where large vehicles (e.g. caravans) can safely and practically park. These vehicles frequently access the showgrounds for events. – Concern raised about access for large vehicles to businesses located on Hillsborough Road in the new design. – Hillsborough Road frequently bottlenecks and impacts emergency response times. The upgrades were noted to improve access and travel times generally, and are unlikely to impede access for emergency services. 	<ul style="list-style-type: none"> – Section 6 – Section 7
Economy, business and employment	<ul style="list-style-type: none"> – Concern that construction activities could deter customers/clients, event visitors, staff, maintenance workers, and delivery vehicles for businesses located on Hillsborough Road. This was raised as an impact that occurred during construction of the Newcastle Inner City Bypass (NICB). – Because CNCC Showgrounds lease from Crown/Council, they would experience impacts from land acquisition, however, would not be compensated, which is a cause of frustration for this stakeholder. – The inability to turn right out of business properties on the southern portion of Hillsborough was a concern for some businesses, as customers/clients who wish to travel east would be inconvenienced. If motorists are required to use King Street roundabout to turn around to travel east, it would add several kilometres of additional travel. Some businesses felt this may deter some customers and reduce revenue over the longer term. 	<ul style="list-style-type: none"> – Section 6 – Section 7
Opportunities, mitigation measures and management	<ul style="list-style-type: none"> – Ongoing and direct consultation with businesses on Hillsborough Road to inform the concept and detailed designs to address concerns regarding access and property impacts. – Provide businesses with a realistic works schedule as early as possible to help them plan for potential impacts during the construction phase. This was raised as an issue from the NICB project. – Specific measures or design changes relevant to businesses on Hillsborough Road included: <ul style="list-style-type: none"> • a U-turn bay at Crockett Street would provide a safe solution and mitigate impacts to businesses. 	<ul style="list-style-type: none"> – Section 6 – Section 7 – Section 9

Key issue	Description	Where addressed in SEIA
	<ul style="list-style-type: none"> • If parking for larger vehicles is impacted at the property boundary of CNCC Showgrounds, the small bridge over Winding Creek within the CNCC property would require upgrades so these vehicles could access suitable parking on the southern side of the creek. Other upgrades to enable safe vehicle movements within the showground included lighting and formalising the internal roads and parking area. – Early and timely communication with emergency response services would allow them to best manage and plan for potential impacts to access. Suggestions included: <ul style="list-style-type: none"> • Briefing the local fire station to discuss questions from the local firefighters would manage any potential access impacts. • Consulting with Fire and Rescue NSW about any changes in access to Hillsborough Firetrail. This is particularly important as there are frequent occurrences of abandoned cars being set alight in the bushland south of Charlestown Golf Club and CNCC Showgrounds. – Suggestions to help manage traffic during construction included: <ul style="list-style-type: none"> • using a contra flow traffic management system instead of a single lane (stop/go) arrangement. • using alternative roads. 	

4.2 Transport for NSW consultation outcomes

4.2.1 Community and stakeholder consultation

Transport has been undertaking an engagement program with stakeholders, landholders and communities throughout the proposal planning and approvals process. Chapter 5 of the REF describes these activities and the stakeholders that have been consulted and provides a summary of the issues raised.

A summary of key issues and themes raised during REF engagement activities that are relevant to this SEIA is provided in Table 4.3 below.

Table 4.3 Transport consultation outcomes relevant to this SEIA

Key issue	Description	Where addressed in SEIA
Access and connectivity	<ul style="list-style-type: none"> – There are mixed views about the removal of parking amongst Hillsborough residents. Some view the removal of parking as inconvenient, and others believe the parking is not used by residents and hence do not mind removal. – Some concerns raised amongst Hillsborough residents regarding the shared path being a potential hazard to vehicle movements in and out of local driveways. – Concerns regarding congestion issues along Hillsborough Road during construction. – The new road design is viewed positively to: <ul style="list-style-type: none"> • Provide improved motorist, pedestrian, and cyclist efficiency • Provide improved connectivity of cycling network, especially at Crockett Street • Provide safer pedestrian access to bus stops – Concerns raised related to changed access from driveways along Hillsborough. Left in - left out only for properties on the southern side of Hillsborough Road, raises concerns that motorists need to travel west to use roundabout at King Street to turnaround. The roundabout is seen as already too busy and problematic. 	<ul style="list-style-type: none"> – Section 6 – Section 7

Key issue	Description	Where addressed in SEIA
	<ul style="list-style-type: none"> – Some opposition from Hillsborough residents to the proposed cul-de-sac at Higham Street, where concerns were raised regarding changed access to suburb of Hillsborough, especially for emergencies. – Consultation with bus company Keolis Downer indicates there is one scheduled school bus service that uses Hillsborough Road within the proposal area. It is felt the new design would provide improved safety and access for students in the area. – Consultation with bus company CDC NSW indicates there are two local buses routes for the general public that use Hillsborough Road within the proposal area. 	
Amenity and community values	<ul style="list-style-type: none"> – Concerns regarding impacts to biodiversity corridors amongst some stakeholder groups. – Concerns regarding light spill from headlights of vehicles exiting proposed new CNCC exit location, impacting residents on opposite side of road. 	<ul style="list-style-type: none"> – Section 6 – Section 7
Economy, business, and employment	<ul style="list-style-type: none"> – Concerns regarding changes to access points at commercial properties inconveniencing customers and losing business as a result, specifically the removal of no right turn out of properties. 	<ul style="list-style-type: none"> – Section 6 – Section 7
Opportunities, mitigation measures and management	<ul style="list-style-type: none"> – Shared path would be safer if there was more physical separation between users and traffic. – Suggestions to create a U-turn bay or roundabout for those who wish to travel east from properties on the southern side of Hillsborough Road. 	<ul style="list-style-type: none"> – Section 9

5. Social baseline

This section describes the existing social and economic characteristics of the local and regional study areas.

5.1 Local study area baseline

5.1.1 Overview

Located in the Lake Macquarie LGA, the proposal includes a stretch of Hillsborough Road about 10 kilometres southwest of the Newcastle CBD, which travels through the suburbs of Hillsborough, Cardiff South and Warners Bay. Hillsborough and Cardiff South are predominantly residential areas. Warners Bay is a larger suburb, made up of residential, commercial and industrial areas. The proposal area also borders the suburb of Charlestown, which is a strategic centre within the Hunter Region (NSW Department of Planning and Environment 2016). Hillsborough Road is a key connection between Newcastle LGA and Lake Macquarie LGA, used frequently by motorists, buses and cyclists (SEIA consultation 2022).

Warners Bay is located on Awabakal Country and is known as 'Biddabah', meaning 'quiet resting place', and was known for its abundance of food (History of Biddabah, 2022). The area was settled by Europeans in the 1820s, with Hillsborough and Cardiff South settled in the 1870s. Hillsborough Road was initially constructed as an access road between Warners Bay and Charlestown, likely during the 1870s when a mine was operating in the area (History of Lake Mac, 2022).

5.1.2 Land use and key features

The proposal area travels through a portion of a commercial area and business park in Warners Bay in the west, an area of bushland and continuing to a residential area in Hillsborough. The business park contains around 25 commercial and retail businesses. There are a number of residential dwellings located adjacent to the proposal area on the northern side of Hillsborough Road in the suburb of Hillsborough.

Key features close to the proposal area include a NSW Ambulance service and Ulinga Sporting Complex in Cardiff South, and Newcastle Junior School and Hillsborough Public School in Hillsborough. Bus services, including one school service, run through the area, with one set of bus stops near the Combined Northern Canine Committee (CNCC) showgrounds, and the other bus stop set located on Crockett Street.

As shown in Figure 1.1, the land between business park (in the west) and the CNCC showgrounds is zoned as Environmental Conservation (C2), with some of this land owned by the Awabakal LALC. The bushland south of this is Crown Land and includes a section of the Great North Walk and other walking/cycling tracks. The Hillsborough fire trail provides fire response access to the bushland from Hillsborough Road, and crosses land owned by Awabakal LALC and Crown. Consultation carried out by Transport has indicated this area of bushland is informally used by local and visitors for bushwalking.

5.1.3 Access and connectivity

Hillsborough Road is a major road that connects Charlestown from the east to Warners Bay in the west. There are only two points of access to the residential area of Hillsborough, which are both from Hillsborough Road.

Hillsborough Road provides access to the Newcastle Inner City Bypass (NICB), which connects to suburbs of Newcastle in the north, and to suburbs of Lake Macquarie in the south, including the Bennetts Green Homemaker Centre.

Concerns were raised during consultation for this SEIA regarding cycling easterly along Hillsborough Road due to a gap in the cycle network between the end of the Warners Bay business park and just west of Crockett Street. A dedicated cycling lane begins just east of Crockett Street and connects cyclists to the NICB and Charlestown Road in the east. There is a two-metre shoulder on the southern side for west bound cyclists along this stint of Hillsborough Road. There is also a cycleway which connects Cardiff South to the Hillsborough through bushland, which provides an offroad connection across three suburbs: Cardiff, Cardiff South and Hillsborough (LMCC, 2022).

There are two sets of bus stops within the proposal area, one set is located on Crockett Street, and the other on Hillsborough Road, near the CNCC. Concerns were raised during consultation with key stakeholders (Section 4) regarding current access to these bus stops due to lack of footpaths and pedestrian signals. As established in SEIA consultation, these stops are serviced by two local bus routes for the general public, serviced by CDC NSW. The 269 route connects Hillsborough to Warners Bay and Toronto in the west, and Charlestown in the east. The 263 route connects Hillsborough and Cardiff South to Cardiff and Glendale in the west, and Charlestown to the east. Both bus routes run seven days a week, at about half hour intervals during the week, and less frequently on weekends. The bus company Keolis Downer also operate scheduled school bus services at these bus stops. These include school bus routes 724 (Highfields to Whitebridge High), 751 (Charlestown to St Josephs Primary), and 1513 (Linuwel School to Macquarie Drive and Glad Gunston Drive).

5.1.4 Economy and business

Several local businesses are located along the southern side of Hillsborough Road, within or adjacent to the proposal area. These include Charlestown Golf Club, Britar Storage, Shed Quarters and the CNCC Showgrounds. These properties can all currently be accessed from Hillsborough Road via left and right turns into their driveways. Table 5.1 provides a description of each business based on consultation outcomes, and their relationship to the proposal. As discussed in section 4.1.1, the 2021 preferred option was referred to during SEIA discussions, and some concerns reflect aspects of the proposal design that have now changed.

Table 5.1 *Businesses relationship to the proposal*

Business name	Description of services	Address	Relationship to proposal / key sentiments expressed during consultation
Charlestown Golf Club	Not-for-profit golf course and ranges with over 1,000 members and visited by social players. The facilities on site include a pro shop, club house, bistro, bar, function venue and gardens.	1A Barker Ave, Hillsborough NSW 2290	Located at the end of Barker Avenue, on the southern side of Hillsborough Road and the proposal. The only access point to Charlestown Golf Club is Barker Avenue. SEIA consultation on the 2021 preferred option showed left in/left out only. The Charlestown Golf Club saw this to be inconvenient for those who wish to exit and travel east.
CNCC Showgrounds	The CNCC Showgrounds was established in 1962, which is a headquarters for about 40 clubs in the region. There are dog training and showing facilities on this site and hosts up to 40 dog shows a year. There is a canteen, café, office, and the caretakers residence on site. The grounds are open to the public for passive recreation.	80 Hillsborough Rd, Charlestown NSW 2290	The property is located on the southern side of Hillsborough Road, about 100 metres east of the Winding Creek culvert. There is an informal internal road network, including parking facilities for larger vehicles, such as trailer and caravans. Potential partial land acquisition would reduce the parking area at the property's boundary with Hillsborough Road, where large vehicles park. The proposal design would remove the entry and exit driveway, and replace with two separate entry and exit driveways. The proposal design would limit access at this property to be left in and left out only.

Business name	Description of services	Address	Relationship to proposal / key sentiments expressed during consultation
Shed Quarters	<p>Shed Quarters designs and builds garden sheds. There is a sales office and work area on site.</p> <p>The owner of Shed Quarters also leases to two other tenants, which are both garden supplies businesses.</p> <p>The owner lives with their family on site, at a residence located at the back of the property.</p>	68 Hillsborough Rd, Charlestown NSW 2290	<p>Shed Quarters is located at the eastern extent of the proposal alignment.</p> <p>Potential partial land acquisition may include some of sales area for one of the tenants (Pots for U).</p> <p>Potential partial land acquisition of the road shoulder (Council owned) would remove an area used for informal parking and some vehicle movements for deliveries.</p> <p>The proposal design would limit access at this property to be left in and left out only.</p>
Britar Storage	<p>Britar Storage provides 65 storage facilities for lease to various domestic and commercial customers, looking to expand capacity in the near future.</p> <p>The facilities are accessed between 7am and 5pm by large vehicles, including removalist trucks.</p> <p>There is an office on site. The owner lives with their family on site, at a residence located about 100 metres from Hillsborough Road.</p>	70 Hillsborough Rd, Charlestown NSW 2290	<p>Britar Storage is located at the eastern extent of the proposal alignment.</p> <p>Potential partial land acquisition may include small areas of the properties driveway.</p> <p>Land acquisition of the road shoulder (Council owned) would remove an area used for informal parking and some vehicle movements for deliveries.</p> <p>The proposal design would limit access at this property to be left in and left out only.</p>

Findings from SEIA consultation indicated that the Newcastle Inner City Bypass (NICB) construction works impacted sales and operations at the businesses on the eastern extent of the proposal area. This was attributed to interrupted access inconveniencing customers, and that the “visual” of the works activities alone was a deterrent to potential customers and clients.

There are a small number of services and facilities throughout Cardiff South, with residents travelling to Warners Bay, Cardiff and Charlestown for shopping and services. Travel to Warners Bay and Charlestown is predominantly via Hillsborough Road.

There are a number of food and retail outlets located just west of the proposal area in the Warners Bay commercial centre, including Mac and Myers Takeaway, KFC, Fuzed Takeaway, Millers Pie and Sandwich bar, Warners at the Bay Hotel, Subway Restaurant, McDonalds Restaurant and Domino’s Pizza.

5.1.5 Key socio-economic indicators

Compared to the Lake Macquarie LGA, the suburbs of Hillsborough, Cardiff South and Warners Bay had similar resident profiles in 2016. The following indicators characterise the local study area:

- Hillsborough and Cardiff South were characterised by a higher proportion of Aboriginal/Torres Strait Islander persons (5.1 per cent or 33 persons, and 5.4 per cent or 154 persons, respectively), compared to Warners Bay (2.4 per cent or 180 persons) and Lake Macquarie LGA (4.1 per cent or 8,032 persons). These proportions may be explained by the small population size of Hillsborough and Cardiff South (ABS, 2016).
- There were fewer people over 65 years in Hillsborough (18.7 per cent) and Cardiff South (14.8 per cent) compared to Warners Bay (23.8 per cent) and Lake Macquarie LGA (20.6 per cent) (ABS, 2016).
- The area is predominantly made-up of family households, where Hillsborough had the highest proportion (82.6 per cent) compared to Cardiff South, Warners Bay and Lake Macquarie LGA (71.7 percent, 70.0 per cent and 73.5 per cent, respectively). The is reflective of the age profile, where most people in the area were aged under 65 years (ABS, 2016).

- The rate of unemployment in Hillsborough, Cardiff South and Warners Bay was almost consistent (6.2 per cent, 5.7 per cent and 6.1 per cent, respectively) compared to the Lake Macquarie LGA (6.9 per cent) (ABS, 2016).
- Health Care and Social Assistance was the largest industry in the local study area and in Lake Macquarie LGA. Education and Training, Retail Trade, Accommodation and Food Services, and Construction were other key industries of employment across the local study area and the Lake Macquarie LGA (ABS, 2016).
- Cardiff South had the lowest proportion of home ownership at 33.1 per cent. Home ownership was at 41.5 per cent in Hillsborough and 43.1 per cent in Warners Bay, compared to 37.7 per cent in the Lake Macquarie LGA (ABS, 2016).
- Hillsborough and Warners Bay had lower levels of disadvantage, with an Index of Relative Socio-Economic Advantage/Disadvantage (IRSAD¹) decile of 6, compared to 7 for the LGA. However, Cardiff South had a decile of 4, indicating a higher level of disadvantage (SEIFA, 2016).
- In 2016, the proportion of the population who required assistance with daily activities in Hillsborough (5.2 per cent), Cardiff South (5.2 per cent) and Warners Bay (5.8 per cent) was lower than that of Lake Macquarie LGA (6.6 per cent) (ABS, 2016).
- Hillsborough and Cardiff South had higher proportions of the population living at the same address five years ago (67.4 per cent and 64.0 per cent, respectively), compared to Warners Bay and Lake Macquarie LGA (58.6 per cent and 59.9 per cent, respectively). This may indicate higher levels of community connectedness within Hillsborough and Cardiff South (ABS, 2016).

A detailed socio-economic profile and list of indicators for the local and regional study areas can be found in Appendix B and Appendix C.

5.1.6 Summary

Key findings most relevant to this SEIA include:

- The proposal area covers a section of Hillsborough Road that includes residential dwellings in Hillsborough, several businesses, and a business park.
- Hillsborough Road provides the only access to the residential area of Hillsborough suburb (via Chadwick Street and Higham Street).
- The Charlestown Golf Club, Britar Storage, Shed Quarters and Combined Northern Canine Committee (CNCC) showground are located within or adjacent to the proposal area.
- There is bushland immediately south of the proposal area, which includes a section of the Great North Walk and other walking/cycling tracks, parts are owned by the Awabakal LALC. The Hillsborough Firetrail provides Rural Fire Service (RFS) access to the conservation area from Hillsborough Road. This area is visited by locals and visitors for bushwalking.
- Cardiff South has a higher level of disadvantage compared to the other suburbs within the study area and the Lake Macquarie LGA.

5.2 Regional study area baseline

5.2.1 Overview

Located 10 minutes south of Newcastle CBD, Lake Macquarie LGA is the most populous LGA in the Lower Hunter region, with a resident population of 207,775 in 2020, growing by 6.4 per cent since 2010 (195,263 persons) (REMPPLAN 2022). As discussed in Section 5.1.1, the LGA is located on Awabakal Country. 'Awabakal' means 'people of the calm surface', which refers to the surface of Lake Macquarie (Awaba Lake), which is Australia's largest coastal saltwater lake (Aussie Towns, 2022).

¹ The ABS produces four socio-economic indices for areas (SEIFA) based on Census data, which identify areas of relative advantage and disadvantage. The Index of Relative Socio-Economic Advantage/Disadvantage (IRSAD) was examined for the social locality (SEIFA, 2016). The IRSAD divides a population into ten equal groups, called a decile. The lowest scoring 10 per cent of these groups are given a decile number of 1, which indicates the highest level of disadvantage, and the highest scoring 10 per cent of areas are given a decile of 10, which indicates the highest level of advantage.

The LGA is best known for its namesake, Lake Macquarie, and its lakeside and coastal attractions, which enable swimming, yachting, fishing, and hiking. The Watagan Mountains, located in the southern end of the LGA, attract bush walkers and campers, and holds rich Aboriginal cultural heritage (Visit Lake Mac, 2022)

5.2.2 Access and connectivity

The Pacific Highway connects Lake Macquarie LGA to Newcastle in the north, and to Sydney in the south via the Pacific Motorway (M1). Lake Macquarie LGA is also connected to Maitland via the Hunter Expressway. The NICB, also provides a connection between Newcastle and Lake Macquarie LGA.

Of the 61,601 workers in the LGA, 68.1 per cent also lived in the area in 2016 (REMPPLAN, 2022). The highest portion of workers travelling to work from outside Lake Macquarie LGA came from Newcastle LGA (18.4 per cent of workers). Most workers travelling to Lake Macquarie LGA drove a car (74.1 per cent), with an additional 4.6 per cent as a passenger in a car (REMPPLAN, 2022). This indicates that most workers depend on the road network to travel to and from work in Lake Macquarie LGA.

SEIA consultation found that Hillsborough Road was reported as a key road to connect motorists between Lake Macquarie LGA and Newcastle LGA and was frequently experiencing delays due to its popular use. It was also reported to be popular for cyclists, where the cycleway along Hillsborough Road is seen as crucial segment of the cycleway network in the Lake Macquarie LGA.

A small number of Lake Macquarie LGA workers used a bus to travel to work (0.8 per cent), which is similar to the rate for the Hunter Region (1.0 per cent) (REMPPLAN, 2022). There are two bus companies servicing the Lake Macquarie area, including CDC Buses and Keolis Downer, these both run along Hillsborough Road, as described in Section 5.1.3.

There are also a number of active transport routes throughout the LGA. Shared paths and dedicated cycle lanes connect residential areas to recreational and commercial centres in the area, as well as connecting north to Newcastle LGA (LMCC, 2022).

The LGA is also connected to Newcastle and Sydney by the Central Coast and Newcastle train line. However, there are limited stations within the LGA, and only a small proportion of residents use trains to travel to work (0.1 per cent) (REMPPLAN, 2022).

5.2.3 Community values, opportunities, and challenges

Engagement and consultation carried out for LMCC's CSP shows the community values mobility and accessibility, to achieve "effective transport systems that provide choices to conveniently move people, goods and services" (LMCC, 2017). The LSPS also identifies public transport as a desirable way to move around the city and supports improved infrastructure to encourage this (LMCC, 2019). SEIA consultation established that Hillsborough Road bottlenecks often causing traffic delays, and that there is currently a gap in the Lake Macquarie LGA cycling network and safe cycleway connectivity between King Street roundabout and Crockett Street.

Lake Macquarie LGA is described as a strong and diverse community known for its natural environment, parks, and community spirit. The community values the lifestyle and amenity offered by the LGA's location and environment (LMCC, 2017). The community have a strong attachment to the unique natural character of the area and take pride in caring for and preserving the environment by promoting environmental sustainability in development and growth (LMCC, 2017).

The community of Lake Macquarie value a diverse economy, with diverse employment opportunities that match the workforce (LMCC, 2019). The Lake Macquarie City Council's *Community Strategic Plan* describes providing jobs for people within the LGA is a key challenge, due to fluctuations across key industries, amongst other factors (LMCC, 2017).

5.2.4 Economy and business

Lake Macquarie LGA's Gross Regional Product (GRP) is estimated at \$11.36 billion in 2020, which represents 19.1 per cent of the state's Gross State Product (REMPPLAN 2022). Lake Macquarie's economy has a diverse economy, ranging from construction and extractive industries to professional services. The LGA also boasts regionally significant higher order retail and community facilities, such as Charlestown Square shopping mall and Belmont Hospital (NSW Government, 2016).

In 2018/19 the largest industry in Lake Macquarie LGA in terms of output was the construction industry, with an output of \$3,518.9 million, accounting for 16.0 per cent of the LGA's total output. The construction industry employed 7,172 people in 2018/19, comprising 11.6 per cent of the workforce in Lake Macquarie LGA (REMPPLAN, 2022). Manufacturing had the second largest output in the LGA (\$3,321.2 million) representing 15.1 per cent of total output. This was followed by rental, hiring and real estate services (\$2,517.2 million) which represented 11.5 per cent of the total output (REMPPLAN, 2022).

5.2.5 Key socio-economic indicators

Table 5.2 presents a summary of key socio-economic indicators for Lake Macquarie LGA. A detailed socio-economic profile and list of indicators for the local and regional study areas can be found Appendix B and Appendix C. As described in section 2.2.3, multiple sources of data have been drawn upon cover specific areas of interest in the demographic profile, including recent estimated populations, population projections and economic development indicators.

Table 5.2 Lake Macquarie LGA demographic summary

Data type	Key statistics
Total population	In 2020, the estimated resident population of Lake Macquarie LGA was 207,775 people (REMPPLAN, 2022).
Population projection	The population of Lake Macquarie is expected to increase between by 15.0 per cent from 202,350 people in 2016 to 232,700 people in 2041 (NSW Government, 2016).
Indigenous population	At the time of the 2016 Census, the Indigenous population of Lake Macquarie LGA was 8,032, representing 4.1 per cent of the population (ABS, 2016).
Age profile	At the time of the 2016 Census, Lake Macquarie LGA had a median age of 40 which is higher compared to the NSW state average of 38 years. The largest age cohorts in the LGA being the 35 to 49 cohort (41.0 percent) and 50 to 64 (39.7 per cent) (ABS, 2016).
Cultural diversity	At the time of the 2016 Census, there was a significantly lower proportion of people born in non-English speaking countries living in Lake Macquarie LGA (5.5 per cent) compared to NSW (21.1 per cent). There is a significantly lower proportion of the population who speak a language other than English at home in Lake Macquarie LGA (4.4 per cent) compared to NSW (25.2 per cent). Within Lake Macquarie LGA, the most common languages other than English spoken at home are Mandarin (0.3 per cent), Italian (0.3 per cent), Macedonian (0.3 per cent), German (0.2 per cent) and Spanish (0.2 per cent) (ABS, 2016).
Unemployment	Unemployment in Lake Macquarie LGA between September 2018 and March 2020 has been characterised as relatively stable, sitting between 4.2 per cent and 5.0 percent over this time. From June 2020, Lake Macquarie saw a sharp upturn in unemployment rates, which is consistent with rates of unemployment in NSW and nationally. These rates are broadly understood as an impact from COVID-19. As of June 2021, Lake Macquarie LGA's unemployment rates returned to 5.1 percent, consistent with pre-COVID-19 levels (REMPPLAN, 2022).

Data type	Key statistics
Advantage/disadvantage	Lake Macquarie LGA has an IRSAD ² of decile 7, indicating a lower level of disadvantage (SEIFA, 2016)
Wellbeing	<p>The proportion of residents in Lake Macquarie LGA (54.0 per cent) feel very safe/safe walking alone in the local area after dark was similar to NSW (53.4 per cent).</p> <p>The estimated proportion of adults residents who have high or very high psychological distress was slightly higher in Lake Macquarie LGA (13.5 per cent) compared to NSW (12.4 per cent).</p> <p>The estimated proportion of the population who were modelled to have 'fair' or 'poor' health in Lake Macquarie LGA (13.5 per cent) was consistent with that of NSW (PHIDU, 2022).</p>

5.3 Summary

Key findings most relevant to this SEIA include:

- Hillsborough Road is a regionally significant road, connecting motorists from Lake Macquarie LGA to Newcastle LGA. Motorists often experience delays along Hillsborough Road.
- Workers within Lake Macquarie LGA are reliant on personal vehicles for travelling to work. There are also a significant number of people who travel from Newcastle LGA to Lake Macquarie LGA for work, using their personal vehicle.
- Lake Macquarie LGA attracts visitors for a wide range of recreational activities.
- There is a strong value for the natural environment across the Lake Macquarie LGA community.

² The ABS produces four socio-economic indices for areas (SEIFA) based on Census data, which identify areas of relative advantage and disadvantage. The Index of Relative Socio-Economic Advantage/Disadvantage (IRSAD) was examined for the social locality (SEIFA, 2016). The IRSAD divides a population into ten equal groups, called a decile. The lowest scoring 10 per cent of these groups are given a decile number of 1, which indicates the highest level of disadvantage, and the highest scoring 10 per cent of areas are given a decile of 10, which indicates the highest level of advantage.

6. Construction impact assessment

This section assesses the socio-economic impacts associated with the construction of the proposal. The sensitivity and magnitude have been determined in accordance with the methodology outlined in section 2. The significance rating shown in section 2.2.5 has been applied to each social impact based on the outcome of this assessment.

Table 6.1 Socio-economic impact summary – construction

Change as a result of the proposal	Potential impact description	Nature, type and duration	Stakeholders affected	Sensitivity	Magnitude	Significance
Property and land use						
Partial land acquisition at some properties to accommodate the proposal	The proposal would require partial land acquisition of a very small area at two residential properties along Hillsborough Road. Partial land acquisition would lead to construction activities and road infrastructure moving closer to yards or residences. Residents may experience a loss of enjoyment in these areas, a decrease in sense of pride in their property, and feel unsafe while using adjacent space within their properties for recreation or leisure activities. Land acquisition negotiations may also create demands on time.	Negative Direct Long term	Residents of properties being partially acquired	Moderate While there may be a greater exposure to traffic and construction activities, most residents are expected to adapt over time.	Low Changes are expected to be long term but would be limited to a small number of residential properties on Hillsborough Road.	Moderate-Low
	The proposal would require partial land acquisition at non-residential properties, including the CNCC Showgrounds, Shed Place and Britar Storage, and Warners Bay Home commercial centre. Partial land acquisition would lead to construction activities and road infrastructure moving closer to places of business.	Negative Direct Long term	Business owners and employees	Moderate While consultation would be carried out with these businesses and some may be adaptable to this change, it is expected that some businesses may be sensitive to loss of parking, which could deter some customers and lead to a loss of income for some businesses.	Low Changes are expected to be long term but would be limited to a small number of businesses on Hillsborough Road.	Moderate-Low

Change as a result of the proposal	Potential impact description	Nature, type and duration	Stakeholders affected	Sensitivity	Magnitude	Significance
	<p>For some businesses, this may lead to reduced areas for parking. Some businesses may be less able to adapt due to the specialised requirements for parking (i.e. caravan and trailers at CNCC Showgrounds, and large utility vehicles at Shed Quarters and Britar Storage). This may be inconvenient to some visitors and employees at these businesses.</p> <p>Land acquisition negotiations may also create demands on time.</p>					
	<p>The proposal would also require partial land acquisition of land zoned Environmental Conservation, owned by the Awabakal LALC. This would include removal of native vegetation. Generally speaking land owned by the LALC adjoining the proposal is undeveloped so not susceptible to amenity impacts (air quality, noise and traffic) that may occur during construction.</p>	<p>Negative Direct Long term</p>	Awabakal LALC	<p>Moderate Whilst the LALC land to be acquired and used temporarily for the constructions period is generally undeveloped it is understood there may be future plans for the use of this land. Further consultation would be carried out with the LALC to confirm compatibility with future uses of LALC land as they become known.</p>	<p>Low Changes are expected to be long term but would be limited to a small amounts of acquisition along the boundary with the road reserve.</p>	<p>Moderate-Low</p>
<p>Partial lease of some residential and non-residential properties to accommodate construction activities</p>	<p>Construction of the project would require temporary leasing of land, or other arrangement for temporary use of land for ancillary facilities such as construction compounds. This would occur at residential and non-residential properties. For some businesses, this may lead to temporary reduced areas for parking. For residential properties, this would lead to construction activities moving closer to yards or residences. Residents may experience a loss of enjoyment in these areas.</p>	<p>Negative Direct Temporary</p>	Residents and business owners and employees	<p>Moderate While consultation would be carried out with these property owners it is expected that some businesses may be sensitive to loss of parking. Some property owners may be sensitive to the increase in exposed traffic.</p>	<p>Low Changes are expected to be temporary and would be limited to a small number of properties on Hillsborough Road.</p>	<p>Moderate-Low</p>

Change as a result of the proposal	Potential impact description	Nature, type and duration	Stakeholders affected	Sensitivity	Magnitude	Significance
Access and connectivity						
Lane closures along Hillsborough Road may increase travel time for road users.	In each direction, one travel lane would remain open for travel. Stoppages would occur intermittently for material delivery, however these would be outside peak hours. People would be required to allow for additional travel time to make trips. Increased time spent travelling may cause delays in getting home, to work, or other commitments. This may be inconvenient for some road users and cause frustration.	Negative Direct Temporary	General road users	Low Some road users may choose to use other travel routes to avoid delays and lane closures would be temporary, and as such are expected to be adaptable to changes. Residents, business owners and employees would not be able to avoid the local area to adapt to changes, and as such may take a little more time to adapt to this change.	Moderate While changes are expected to be limited to a small geographical area, impacts would extend over the construction phase and potentially impact a large number of road users.	Moderate-Low
	Emergency response services would be required to use alternative routes for emergency response. This may impact response time in some cases. SEIA consultation established that emergency response services are equipped with communications procedures to respond to changing road conditions and potential road closures. It also established that there are alternative routes to Hillsborough Road if the response team are required to avoid Hillsborough Road. Emergency services would be consulted with prior to and during construction works.		Emergency response services	Low Emergency services would be consulted with prior to and during construction activities, and have existing systems in place to communicate and respond to changing road conditions. As such emergency services are expected to be adaptable to any changes.	Moderate While changes are expected to be limited to a small geographical area, impacts would extend over the construction phase.	

Change as a result of the proposal	Potential impact description	Nature, type and duration	Stakeholders affected	Sensitivity	Magnitude	Significance
Temporary change in access to some residential driveways during construction, including during intersection works at Crockett Street, Higham Road, Barker Avenue and Chadwick Street and along Hillsborough Road.	Some residents may be required to park cars on nearby local streets and walk to their property. This may be an inconvenience for some residents. Vehicular access to some properties may be restricted for short periods during the construction work. Where access to property would be disrupted for an extended period, alternative access arrangements would be provided.	Negative Direct Temporary	Local residents	Negligible Residents would be consulted with prior to changes and as such are expected to be adaptable to changes.	Low Changes are expected to be temporary and limited to a small geographical area.	Negligible
			Vulnerable residents	Low As above, however vulnerable residents may require a little more time to adapt to changes.	Low Changes are expected to be temporary and limited to a small geographical area.	Low
Temporary changes to access for businesses along the southern side of Hillsborough Road	Employees, customers, and delivery drivers may experience delays when accessing businesses on the southern side of Hillsborough Road, including CNCC Showgrounds, Charlestown Golf Club and the cluster of businesses at the eastern extent of the proposal area. This may be an inconvenience, and could deter some customers and delay deliveries. During SEIA consultation it was reported that these businesses experienced similar inconveniences and access issues during the construction of the Newcastle Inner City Bypass (NICB), and some were concerned they would experience these impacts again during the construction of the proposal.	Negative Direct Temporary	Business owners, employees, clientele, visitors and delivery drivers	Moderate Some businesses may be sensitive to these changes, particularly if customers are deterred. Access issues at these properties may also impact on business operations, which is discussed below under 'Economy, employment and business'.	Low Changes are expected to be temporary and limited to a small geographical area.	Moderate-Low
Temporary changes to walking track access	Construction activities may result in changed access to the walking track entrance located on Hillsborough Road just east of Barker Avenue. This may require recreational walkers to alter their route or interrupt their enjoyment of the natural environment.	Negative Direct Temporary	Recreational walkers	Low Traffic and pedestrian control measures would be in place to communicate changes and provide alternative routes where necessary.	Negligible Changes are expected to be temporary and limited to a small geographical area.	Negligible

Change as a result of the proposal	Potential impact description	Nature, type and duration	Stakeholders affected	Sensitivity	Magnitude	Significance
Changes to pedestrian facilities and active transport routes	Intersection upgrades at Crockett Street, Higham Road, Barker Avenue and Chadwick Street, upgrades to bus stops and construction of the shared pathway may lead to increased travel times for pedestrians and cyclists, and may require them to alter their original route. Vulnerable groups may find changes to pedestrian crossings or footpaths confusing and difficult to navigate. This may lead to actual or perceived safety concerns. This may deter some people from using these paths, and disrupt lifestyles (e.g. daily tasks like going to the shops).	Negative Direct Temporary	Cyclists Pedestrians Local residents	Negligible Traffic and pedestrian control measures would be in place to communicate changes and provide alternative routes where necessary.	Low Changes are expected to be temporary and limited to a small geographical area.	Negligible
Delays to public transport services due to construction activities	Increased time spent on the bus, and a decrease in the reliability of local bus services due to construction activities or road closure in the proposal corridor. This may be an inconvenience to some bus passengers. Public transport is often used by vulnerable community members, such as younger people, people who experience disability, older people and people with mobility issues, people with low levels of English and people with low incomes. These groups may experience a greater level of sensitivity to changed public transport access, efficiency, and reliability.	Negative Direct Temporary	Bus passengers	Moderate Public transport is often used by vulnerable community members, and may be sensitive to changes.	Low Changes are expected to be temporary and limited to a small geographical area.	Moderate-Low

Change as a result of the proposal	Potential impact description	Nature, type and duration	Stakeholders affected	Sensitivity	Magnitude	Significance
On-street parking in front of residential properties would be incrementally removed across the duration of works.	<p>Residents along Hillsborough Road would be required to use off-street parking, as on-street parking is removed over the construction period.</p> <p>Reduced parking availability may be inconvenient for local residents and may lead to an increase in time spent finding a parking space.</p> <p>Residents would be consulted with prior to changes, and are expected to be adaptable to changes, however vulnerable residents may require a little more time to adapt to changes.</p>	<p>Negative Direct Permanent</p>	Local residents	<p>Low Residents would be consulted with prior to changes and are expected to be adaptable to changes.</p>	<p>Moderate Changes are expected to be limited to a small geographical area, however the changes would be permanent.</p>	Moderate-Low
Overflow construction vehicle parking from construction activities within the Hillsborough suburb road network during peak periods of works	<p>During peak periods, some site visitor vehicles and construction vehicles may be required to be parked on the side streets within Hillsborough.</p> <p>Reduced parking availability may be inconvenient for local residents and may lead to an increase in time spent finding a parking space.</p> <p>Increased vehicle movements and parked vehicles in the Hillsborough suburb road network may alter some amenity from windows and frontages, and may decrease some resident's enjoyment of these areas.</p>	<p>Negative Direct Temporary</p>	Local residents	<p>Low Residents would be consulted with prior to changes and are expected to be adaptable to changes.</p>	<p>Low Changes are expected to be limited to a small geographical area and would be short term.</p>	Low

Change as a result of the proposal	Potential impact description	Nature, type and duration	Stakeholders affected	Sensitivity	Magnitude	Significance
Amenity and character						
Increased noise and vibration levels due to construction activities	Increased noise from construction activities may be a nuisance to some residents. During the days, this may lead to individuals changing their behaviours, spending more time indoors and closing windows to prevent excess noise. During the night, there is the potential to disturb people's night-time peacefulness, relaxation or sleep can lead to tiredness. This can affect some people's moods and quality of life. However night time works are likely to be infrequent.	Negative Direct Temporary	Local residents	Low Residents would be consulted with prior to changes and as such are expected to be adaptable to changes.	Low Changes are expected to be temporary and limited to a small geographical area.	Low
	Vulnerable residents may be more sensitive to noise and may find it harder to adapt to amenity changes.		Vulnerable residents	Moderate While residents would be consulted with prior to changes, vulnerable residents may be sensitive to changes.	Low Changes are expected to be temporary and limited to a small geographical area.	Moderate-Low
	Increased noise may be disruptive to businesses and be a nuisance for employees and customers. However this is not expected to deter most customers.		Businesses	Negligible Businesses would be consulted with prior to changes and as such are expected to be adaptable to changes. Visitors would experience noise impacts for short durations while visiting only.	Low Changes are expected to be temporary and limited to a small geographical area.	Negligible

Change as a result of the proposal	Potential impact description	Nature, type and duration	Stakeholders affected	Sensitivity	Magnitude	Significance
Dust generated from construction activities may impact air quality on nearby residential areas	Increased dust may lead to some residents altering their way of life, such as keeping windows closed, or spending less time in their yards or on balconies. People may also need to spend more time cleaning indoor or outdoor surfaces due to settling dust.	Negative Direct Temporary	Local residents	Low Residents would be consulted with prior to changes and as such are expected to be adaptable to changes.	Low Changes are expected to be managed to reduce potential health risks and would be temporary and limited to a small geographical area.	Low
	Vulnerable residents, such as older people, children and people with medical conditions such as asthma, may be more sensitive to dust.		Vulnerable residents	Moderate While residents would be consulted with prior to changes, some vulnerable residents may be sensitive to air quality changes.	Low Changes are expected to be managed to reduce potential health risks and would be temporary and limited to a small geographical area.	Moderate-Low
Changes to visual surrounds due to construction activities	Residents on Hillsborough Road would be able to view construction activities. This may lead to some residents reducing use or enjoyment of outdoor areas, including balconies, or reducing time or enjoyment looking out of windows.	Negative Direct Temporary	Local residents	Low Residents would be consulted with prior to changes and as such are expected to be adaptable to changes.	Low Changes are expected to be temporary and limited to a small geographical area and impact a small number of residential receivers.	Low
Changes to visual amenity from vegetation clearance	Residents on Hillsborough Road would experience changes to visual surroundings as a result of vegetation removal. This may alter some views from windows and frontages, and may decrease some resident's enjoyment of these areas.	Negative Indirect Long term	Local residents	Low Local residents expected to adapt to these changes over time.	Medium This is a permanent change, and is expected that the change would be discernible from baseline conditions.	Low-Medium

Change as a result of the proposal	Potential impact description	Nature, type and duration	Stakeholders affected	Sensitivity	Magnitude	Significance
Economy, employment, and business						
Combined changes to parking, traffic, and access from construction activities may reduce amenity and deter customers at businesses along Hillsborough Road.	<p>The combination of reduced parking, increased traffic and delays, and access changes at and around business properties would occur as a result of construction activities.</p> <p>During SEIA consultation businesses on Hillsborough Road noted that impacts to trade were experienced during construction of the NICB. This was reported to result in reduced revenue and disruptions to business operations. While the impacts would be temporary, and control measures would be in place to manage traffic and access, businesses are likely to be sensitive to these changes.</p>	<p>Negative Indirect Temporary</p>	Businesses	<p>Moderate Businesses are likely to have a moderate level of sensitivity to potential reduction in customer visitation and income. SEIA consultation businesses reported experienced similar impacts from the NICB.</p>	<p>Low Changes are expected to be temporary and limited to a small geographical area.</p>	Moderate-Low
Job opportunities in the proposal workforce	Potential increase in employment opportunities due to 35 to 40 construction employment opportunities. This would result in direct employment opportunities for skilled workers from the region including roles such as engineers, designers, and construction workers.	<p>Positive Direct Temporary</p>	Job seekers in regional study area	<p>Low Because there are a number of similar job opportunities in the region, it is considered that job seekers would not be sensitive to this change.</p>	<p>Negligible Due to the temporary nature of employment opportunities, the changes from these job opportunities are not expected to be discernible from the existing market.</p>	Negligible (Positive)
Increased opportunities for local businesses to supply goods and services to the construction workforce	Potential demand for local food and beverage and retail services close to the proposal to increase due to construction workers spending their wages. Businesses that are likely to benefit include retail and food and beverage shops and services located within the Warners Bay commercial centre.	<p>Positive Direct Temporary</p>	Businesses	<p>Low Because these food and retail businesses already serve a large customer base, they are not expected to be sensitive to this change</p>	<p>Negligible Changes are expected to be temporary.</p>	Negligible (Positive)

7. Operational impact assessment

This section assesses the socio-economic impacts associated with the operation of the proposal. The sensitivity and magnitude have been determined in accordance with the methodology outlined in Section 2. The significance rating shown in Section 2.2.5 has been applied to each social impact based on the outcome of this assessment. Social impacts as a result of partial land acquisition required during construction and operation of the proposal are assessed in Table 6.1 above.

Table 7.1 Socio-economic impact summary – operational

Change as a result of the proposal	Potential impact description	Nature, type and duration	Stakeholders affected	Sensitivity	Magnitude	Significance
Access and connectivity						
Improved travel times and reduced congestion resulting from overall traffic flow improvements	<p>During operation the proposal will provide additional lane capacity, facilitating overtaking and turning movements, and reduce congestion.</p> <p>This would improve travel times and reliability in the road network as a result of overall traffic flow. This would result in benefits to all road users as well as residents and local communities</p> <p>SEIA consultation found that traffic efficiency measures were desired for Hillsborough Road and that the existing traffic conditions cause frustration.</p>	<p>Positive Direct Long term</p>	Road users	<p>Moderate Because Hillsborough Road is a major road, and many road users use it frequently, it is expected that these road users would be sensitive to the changes.</p>	<p>High The changes would be long term, they would be very noticeable by road users, and would be experienced by a large number of road users.</p>	<p>High-Moderate (positive)</p>
	<p>Traffic flow improvements would have the potential to benefit emergency service response times if they are required to travel through the area.</p> <p>SEIA consultation found that traffic efficiency measures were desired for Hillsborough Road and that emergency services frequently used this road during emergency responses.</p>	<p>Positive Direct Long term</p>	Emergency services	<p>Moderate Because Hillsborough Road is a major road, and services use it frequently, it is expected that these emergency response would be sensitive to the changes.</p>	<p>High The changes would be long term, they would be very noticeable by emergency response teams.</p>	<p>High-Moderate (positive)</p>

Change as a result of the proposal	Potential impact description	Nature, type and duration	Stakeholders affected	Sensitivity	Magnitude	Significance
Improved access to and from Hillsborough and Cardiff South	Traffic lights would be introduced to the intersections at Chadwick Street and Crockett Street. This would provide safer access to Hillsborough Road from the suburbs of Hillsborough and Cardiff South, which may reduce waiting times experienced by local road users. During SEIA consultation, it was noted that the community within Hillsborough have been vocal about the need for better access from local streets onto Hillsborough Road, and that the new road design would be a suitable solution.	Positive Direct Long term	Local roads users	Moderate Because access to Hillsborough Road has been reported as an ongoing issue for Hillsborough residents, these road users are expected to be sensitive to these changes.	Moderate This change would be long term and may positively impact the entire Hillsborough suburb.	Moderate (positive)
Changed access to businesses on southern side of Hillsborough Road	The new road design would remove right in/right out access, and hence provide a left in/left out only access for businesses on the southern portion of Hillsborough Road, including the CNCC Showgrounds, Shed Quarters and the surrounding businesses. This left in/left out arrangement would require motorists to travel west to a new U-turn facility along Barker Avenue, and use the new traffic lights on the Barker Avenue intersection to travel eastbound.	Positive Direct Long term	Businesses and their customers	Moderate While the changes may inconvenience some at first, it is expected that businesses and their customers would easily adapt to this change and enjoy safer access to these properties, and hence experience a positive outcome from the changes to access.	Low Changes to access would likely be noticeable at first, however road users are expected to be adaptable to these changes. Additionally, the changes only apply to a small geographic area.	Moderate-Low (positive)

Change as a result of the proposal	Potential impact description	Nature, type and duration	Stakeholders affected	Sensitivity	Magnitude	Significance
	<p>While SEIA consultation showed that left out only from these businesses would be inconvenient for some employees and visitors, a U-turn facility was generally viewed as a safe and appropriate solution to left out only on to Hillsborough Road.</p> <p>As such, the proposed access arrangement to provide a U-turn facility and signals at Barker Avenue is considered positive, as it would provide safer access to these properties.</p>					
Access changes to the local road network in Hillsborough	<p>The Higham Road intersection with Hillsborough Road would be partially closed to provide left out only access to Hillsborough Road.</p> <p>This would remove direct access from Hillsborough Road to Higham Road, and would require traffic to use Chadwick Street, which may slightly increase travel time for some residents.</p>	<p>Negative Direct Long term</p>	Local residents	<p>Low Local residents and users of local road network are expected to adapt to these changes over time.</p>	<p>Negligible Although this is a permanent change, the change would be small and would not impact a large proportion of people.</p>	Negligible
Improved bus stop access and facilities	<p>Formalised intersections would provide improved pedestrian access to bus stops along Hillsborough and Crockett Street.</p> <p>New facilities at bus stops, such as shelters may provide more comfort for public transport users by sheltering from weather conditions.</p>	<p>Positive Direct Long term</p>	Public transport users	<p>Moderate Because access to the bus stops on the southern side is considered unsafe in the current arrangement, public transport users are likely to be sensitive to changes.</p>	<p>Low The changes would be long term, however they would impact a small number of people over a small geographic area.</p>	Moderate-Low (positive)

Change as a result of the proposal	Potential impact description	Nature, type and duration	Stakeholders affected	Sensitivity	Magnitude	Significance
	<p>SEIA consultation found that access to some bus stops on the southern side of Hillsborough Road in the existing arrangement was considered unsafe, as it required pedestrians to cross the road without a formal pedestrian crossing.</p> <p>Public transport is often used by vulnerable community members, such as younger people, people who experience disability, older people and people with mobility issues, people with low levels of English and people with low incomes. These groups may experience a greater level of benefit to improved public transport access, efficiency, and reliability.</p>					
Improved accessibility for active transport users due to new shared pathways and better cycling network connections.	<p>This has the potential to improve connectivity for people travelling along Hillsborough Road and improve feelings of safety for more vulnerable pedestrians, including those who rely on active travel and people with mobility difficulties.</p> <p>SEIA consultation found that the gap in the eastbound cycling network at Crockett Street was a key safety concern for cyclists and others.</p> <p>This may increase uptake of active transport and may result in potential health and wellbeing benefits associated with increased physical activity.</p>	<p>Positive Direct Long term</p>	Active transport users	<p>Moderate Because there is currently no sealed pathway for pedestrians on the northern side of Hillsborough Road, and that there is an unsafe gap in the cycling network along the proposal area, it is considered that active transport users would be sensitive to these changes.</p>	<p>Low The changes would be long term, however they would impact a small number of people over a small geographic area.</p>	<p>Moderate-Low (positive)</p>

Change as a result of the proposal	Potential impact description	Nature, type and duration	Stakeholders affected	Sensitivity	Magnitude	Significance
Amenity and character						
Changes to the local road network in Hillsborough	The Higham Road intersection with Hillsborough Road would be partially closed to provide left out only access to Hillsborough Road. This would remove access from Hillsborough Road directly on to Higham Road, which may reduce numbers of vehicle movements along this street. This may reduce road noise for residents along Higham Road.	Positive Direct Long term	Local residents	Low Local residents and users of local road network are expected to adapt to these changes over time.	Negligible Although this is a permanent change, it is not expected that the change would be discernible from baseline conditions.	Negligible
	The partial closure of Higham Road may redirect traffic onto Chadwick Street when vehicles are accessing the suburb of Hillsborough. This may increase the number of vehicle movements along Chadwick Street. This may be an inconvenience and cause frustration for local residents and users of the local road network or create additional road noise for residents along Chadwick Street.	Negative Indirect Long term	Local residents	Low Local residents and users of local road network are expected to adapt to these changes over time.	Negligible Although this is a permanent change, it is not expected that the change would be discernible from baseline conditions.	Negligible
Changes to visual amenity for local residents	Residents on Hillsborough Road would experience changes to visual surroundings as a result of new road infrastructure, in particular those close to the new intersections and where any vegetation removal has occurred. This may alter some views from windows and frontages, and may decrease some resident's enjoyment of these areas.	Negative Indirect Permanent	Local residents	Low Local residents expected to adapt to these changes over time.	Medium This is a permanent change and would be discernible from baseline conditions.	Low-medium

8. Cumulative impact assessment

Other planned proposals in the area may be constructed concurrently with this proposal. This may lead to cumulative socio-economic impacts in the local and regional study area during construction and operation of the proposal. Consultation for the REF and SEIA has indicated that there are a number of proposals in the area that would require a construction workforce, which would add to the demand on people with related skills in the region.

Table 8.1 Other projects in proximity to the proposal

Project	Distance from the proposal	Timing	Construction impacts	Operational impacts
Charlestown Private Hospital and Medical Centre	Two kilometres to the east	N/A	<p>Construction impacts of the Charlestown Private Hospital may include:</p> <ul style="list-style-type: none"> – Traffic congestion affecting Smith Street, Fredrick Street, and the Pacific Highway during standard construction hours. – Construction noise exceeding the noise criteria for commercial buildings and residences on Smith Street, Fredrick Street, and the Pacific Highway. 	<p>Operational impacts of the project may include:</p> <ul style="list-style-type: none"> – An increase in traffic – Visual impacts of the new buildings
Alesco Senior College, Charlestown	Three kilometres to the east	6 weeks, commencement date unknown	<p>Construction impacts of the Alesco Senior College development may include:</p> <ul style="list-style-type: none"> – Traffic congestion affecting Charlestown Road and the Pacific Highway during standard construction hours. – Construction noise exceeding the noise criteria for commercial buildings and residences on Charlestown Road and the Pacific Highway. 	<p>Operational impacts of the project may include:</p> <ul style="list-style-type: none"> – An increase in traffic – Visual impacts of the new buildings
Innova Soil Remediation (Mod 1 – Material Sourcing)	Two kilometres to the northwest	N/A	<p>Construction impacts of the Innova Soil Remediation may include noise disturbance to nearby receivers.</p>	<p>There would be no operational impacts as no active activities have been recorded for the operation stage.</p>
Rankin Park to Jesmond - NICB	3.5 kilometres to the north	Construction to begin on late 2022	<ul style="list-style-type: none"> – Amenity impacts from construction are not expected to combine with those from the proposal. – Changes traffic conditions have the potential to combine with those resulting from the proposal, for motorists using both areas during travel. This may result is frustration for those motorists. 	<p>Upgrades from this project and the proposal would improve overall travel times and reliability in the road network as a result of overall traffic flow across the areas of each project.</p>

9. Recommended mitigation and management measures

To avoid, minimise and manage the socio-economic impacts arising from the construction and operation of the proposal as assessed in sections 6 through 8, a number of mitigation measures have been developed which are shown in Table 9.1.

The mitigation measures suggested in this SEIA focus on ongoing consultation and communication with impacted stakeholders, and along with those listed in other technical reports prepared for the REF including those related to land acquisition and noise, together are expected to manage potential social and economic impacts resulting from the proposal.

Table 9.1 Recommended mitigation measures

Social impacts / benefits	Mitigation measure	Description	Timing
Impacts to local residents and businesses	Community Communication Strategy (CCS)	<p>A Community Communication Strategy (CCS) will be prepared to outline communication with the local community and relevant stakeholders that may be affected by the proposal. The strategy is to:</p> <ul style="list-style-type: none"> – Identify people, businesses and organisations to be consulted during the delivery of the proposal. – Set out procedures and mechanisms for the regular engagement with local businesses and organisations (for example, around local events) and distribution of information about the proposal. – Outline process to keep relevant stakeholders updated on site construction activities, traffic changes, schedules and milestones. – Outline avenues for the community to provide feedback (including a 24- hour, toll free project information and complaints line) or to register complaints. – Outline a process to resolve complaints and issues raised. 	Detailed design
Impacts to local residents and businesses	Communication Plan (CP)	A Communication Plan (CP) will be prepared and implemented as part of the construction environmental management plan (CEMP) to ensure provision of timely and accurate information to the community and stakeholders during construction.	Construction

Social impacts / benefits	Mitigation measure	Description	Timing
Impacts to local residents and businesses	Property acquisition plan and agreement	All partial acquisitions and associated property adjustments will be carried out in accordance with the requirements of the <i>Land Acquisition (Just Terms Compensation) Act 1991</i> , and the reforms announced in October 2016, in consultation with landowners. This would include a land acquisition agreement, developed in consultation with landowners. Property adjustments will be completed in consultation with property owners/business managers.	Detailed Design
Impacts to Awabakal LALC		All partial acquisitions and associated property adjustments will be carried out in accordance with the requirements of the Land Acquisition (Just Terms Compensation) Act 1991, and the reforms announced in October 2016, in consultation with landowners. This would include a land acquisition agreement, developed in consultation with landowners, including discussions to understand any impacts resulting from the removal of native vegetation As detailed in Section 5.0 of the REF the LALC have been consulted about the proposal during the design development, in particular regarding potential acquisition. Further consultation will continue to be undertaken during subsequent stages of the proposal.	Detailed Design
Impacts to local residents and businesses	Traffic Management Plan (TMP)	Temporary construction traffic staging to consider local residential and business use to maintain safe access during construction. Access will be maintained to local businesses near to construction work. Where temporary access changes are proposed, these will be agreed with the affected business owner.	Construction
Employment and business opportunities	Local and Indigenous employment and procurement	The proposal is to prioritise opportunities for Indigenous workers and procurement in line with the NSW's Governments Aboriginal Procurement Policy (NSW Government, 2021) and Transport's Aboriginal Participation Strategy (TfNSW, 2021b).	Detailed Design
Sustainability	Sustainability Management Plan	A Sustainability Management Plan will be developed for the proposal and implemented in accordance with the <i>Transport Sustainability Plan</i> (TfNSW, 2021a).	Detailed Design/Construction

10. Conclusion

This SEIA has been prepared as part of the REF for the duplication of about 1.8 kilometres of Hillsborough Road and aims to identify and evaluate the potential social impacts and benefits resulting from the project. This SEIA has been prepared in accordance with the *Environmental Impact Assessment Practice Note: Socio-economic Assessment* (TfNSW, 2020a). The methodology for the assessment is described in Section 2.

The methodology for the SEIA has included determining a social locality (i.e. the communities potentially affected by the project), preparing a social baseline, and targeted consultation with key local and regional stakeholders to understand the potential social impacts and benefits, and inform appropriate mitigation measures.

The key social benefits of the proposal are primarily related to the improved safety, improved travel times and reduced congestion resulting from overall traffic flow improvements. SEIA consultation found that traffic efficiency measures were desired by the community and businesses for Hillsborough Road and that the existing traffic volumes and conditions have led to unsafe or illegal behaviours by road users caused by frustration.

During consultation, business owners within the study area noted they had previously experienced reduced trade during the construction of the NICB and had similar concerns relating to the construction of the proposal. Concerns expressed by businesses related primarily to access and amenity during the construction period and permanent changes or reduction to parking availability.

The proposal would include a solid median barrier the full length of the proposal which would change access to some streets and properties along the proposal alignment during construction and operation. The removal of the right in/right out access for businesses on the southern portion of Hillsborough Road (including the Combined Canine North Committee Showgrounds and Shed Quarters) was found to likely result in some inconvenience during operation. While a left out only access to and from these businesses would be inconvenient for some employees and visitors, the proposed U-turn facility was generally viewed as a safer and appropriate solution to access to Hillsborough Road.

The SEIA has identified the following mitigation measures for the proposal to minimise potential social impacts, and to enhance social benefits:

- Develop a Community Communication Strategy – this is currently being implemented by Transport, and would continue to share information with communities and businesses about the proposal.
- Construction Communication Plan will be prepared and implemented as part of the construction environmental management plan (CEMP) – prepared by the construction contractor to ensure that residents and stakeholders are notified in a timely manner about construction activities and potential for impacts, and would include a complaints mechanism.
- Property acquisition plan - Consultation will continue to be carried out with each landowner and resident throughout the acquisition process, in accordance with Transport policy and the *Land Acquisition (Just Terms Compensation) Act 1991*.
- Provide opportunities for local and Aboriginal employment and procurement.

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Appendices

Appendix A

Scoping Checklist

Table A.1 Scoping Checklist

Issue	Consideration	Scale of impact				Is the impact manageable using standard mitigation measures? If yes, how?	Comment
		Individuals only	Groups of residents / special interest groups / businesses	Sections of the community/ economy	Towns/ suburbs/ town centres		
Property impacts	Are property acquisitions likely?		Yes			Yes – through property acquisition and negotiation process and ongoing consultation with affected property owners	Partial acquisition may be required at multiple properties
	Is there a potential for displacement of residents or businesses due to property acquisition?	No				NA	NA
	Will there be impacts on vulnerable groups (i.e. elderly, people in need of assistance, communities that demonstrate higher levels of disadvantage)?		Yes			Yes – through ongoing consultation with affected nearby residents	Vulnerable groups include Indigenous communities in Hillsborough and Cardiff South, low income households in Cardiff South as well as higher levels of socio-economic disadvantage in Cardiff South.
	Will the project impact upon any property improvements?	Unknown				NA	NA
	Does the project result in fragmentation of rural properties?	No				NA	NA
Changes to population and demography	Will residents need to relocate as a result of property acquisition?		No			NA	NA
	Will the project's construction result in a large influx of workers to the study area?	No				NA	Project located in suburban area, construction workforce not likely to result in social impacts for local community

Issue	Consideration	Scale of impact				Is the impact manageable using standard mitigation measures? If yes, how?	Comment
		Individuals only	Groups of residents / special interest groups / businesses	Sections of the community/ economy	Towns/ suburbs/ town centres		
Economy	Will the project impact on local employment?			Yes		Impact could be enhanced by liaising with local business chamber and/or Indigenous groups about local employment and procurement opportunities	Local workforce could be employment in construction
	Will the local population benefit from improvements in income as a result of the project?			Yes		Impact could be enhanced by liaising with local business chamber and/or Indigenous groups about local employment and procurement opportunities	Potential increase in income for those employed on the project.
Business and industry	Does the project impact (either directly or indirectly) on businesses/ commercial enterprises, including agricultural businesses?		Yes			Yes – construction traffic management and design of road	Changes to access in construction and operation may affect businesses Business opportunities in procurement Construction workforce spend at local businesses
	Are impacts on businesses likely to have flow on effects for employees?	Yes				Yes – through ongoing consultation with affected businesses	Changes to access in construction and operation
	Is the project likely to have direct or indirect effects on the regional economy?	No				NA	NA
	Will the project result in changes in access to or bypass of businesses?		Yes			Yes – consultation with affected businesses	Changes to access in construction Change to access in operation – no right turns out of businesses

Issue	Consideration	Scale of impact				Is the impact manageable using standard mitigation measures? If yes, how?	Comment
		Individuals only	Groups of residents / special interest groups / businesses	Sections of the community/ economy	Towns/ suburbs/ town centres		
	Does the project impact on the composition of regional industries (i.e. tourism, agriculture, mining and resources, manufacturing)?	No				NA	NA
Social infrastructure	Will the project impact (directly or indirectly) any community services or facilities such as hospitals, schools, recreational facilities, aged care, etc?	Yes				Yes – consultation with affected facilities, maintain access during construction	Construction activities may impact users of Hillsborough Oval, Cardiff Ambulance Station, and nearby schools. This includes potential access or amenity changes.
	Will the project impact on places that are used by the homeless for shelter or socially disadvantaged to congregate?	No				NA	NA
Community values, including community health and safety, and community cohesion/ severance	Does the project impact on any places of Aboriginal or non-Aboriginal heritage?			Yes		Yes – further assessment should be completed in accordance with the Stage 3 of the PACHCI and the requirements of the Code of Practice	Any changes to the scope of the proposal, such as a change in impact footprint, may require further archaeological survey and an additional addendum PACHCI Stage 2 report
	Does the project impact on any places likely to be of importance to the local community (i.e., environmental areas, local parks, local monuments, etc)?	No				NA	NA
	Do sections of the community have a strong attachment to place (e.g. large number of generations of a family have lived in the same area)?	NA	Unknown			NA	NA
	Is there a potential for impacts (real or perceived) on community health or safety due to emissions to air or water, noise or chemical hazards?	Unknown				Yes, construction environmental management plans are expected to manage these changes	Potential noise and air quality impacts at nearby residents and sensitive receivers during operation. To be confirmed with Air Quality assessment

Issue	Consideration	Scale of impact				Is the impact manageable using standard mitigation measures? If yes, how?	Comment
		Individuals only	Groups of residents / special interest groups / businesses	Sections of the community/ economy	Towns/ suburbs/ town centres		
	During construction, is there a potential for impacts (real or perceived) on community health or safety due to emissions to air or water, noise or chemical hazards?	No				NA	NA
	Is there the potential for severance of communities or towns?	No				NA	NA
	Will the project change the way people use and access community facilities?	Yes				Yes – consultation with affected facilities, maintain access during construction	Construction activities may impact users of Hillsborough Oval, Cardiff Ambulance Station, and nearby schools. This includes potential access or amenity changes.
	Will the project change the unique character of the place or community in which it is located?	No				NA	NA
	Will the project result in changes to places of commemoration or memorialisation or with other intangible values?	No				NA	NA
Local amenity	Will the project change the amenity for residents, businesses, or community facilities? (i.e., through changes in air quality, visual and landscape impacts, noise and vibration)	No				NA	NA
	During construction, will the project change the amenity of residents, businesses or community facilities? (i.e., through changes in air quality, visual and landscape impacts, noise and vibration)		Yes			Yes, construction environmental management plans are expected to manage these changes	Potential for amenity change on nearby residents, businesses and community facilities due to construction activities

Issue	Consideration	Scale of impact				Is the impact manageable using standard mitigation measures? If yes, how?	Comment
		Individuals only	Groups of residents / special interest groups / businesses	Sections of the community/ economy	Towns/ suburbs/ town centres		
Access and connectivity	Will the project change:						
	travel patterns (e.g. introduce turning restrictions, traffic signals, road closures, new connections, etc.)		Yes			Yes – through ongoing consultation with affected stakeholders	The project will change access arrangements to some businesses and residential streets, including cul-de-sac at Higham St and no right turns out of some business driveways
	cyclist facilities or access	Yes				Yes – benefits could be enhanced through ongoing consultation with stakeholders	Improved cycleway connectivity, shared path connects gap west of Crockett Street
	pedestrian access (i.e. access to public transport, and to/ within commercial precincts, town centres, recreational locations, shops)	Yes				Yes – benefits could be enhanced through ongoing consultation with stakeholders	Shared pathway on northern side provides improved pedestrian movement
	public transport services or facilities	Yes				Yes – benefits could be enhanced through ongoing consultation with stakeholders	Traffic signals at Chadwick Street and Crockett Street provide safe pedestrian access to bus stops
	parking	Yes				Yes –through ongoing consultation with affected stakeholders	Removal of on street parking along the entire section of Hillsborough Road
	property access	Yes				Yes –through ongoing consultation with affected stakeholders	Changes to some residential and business driveways, including driveway configuration and no right turns out of businesses

Issue	Consideration	Scale of impact				Is the impact manageable using standard mitigation measures? If yes, how?	Comment
		Individuals only	Groups of residents / special interest groups / businesses	Sections of the community/ economy	Towns/ suburbs/ town centres		
	access for people with special needs (i.e. people with mobility difficulties, elderly, children, etc.)	Yes				Yes – benefits could be enhanced through ongoing consultation with stakeholders	Providing shared pathway would benefit children, people with mobility difficulties and the elderly who have a greater reliance on these methods of travel.
	During construction, will the project:						
	generate large volumes of traffic	Yes				Yes, construction environmental management plans are expected to manage these changes	Potential for access changes due to construction activities along the road corridor for residents and businesses
	change pedestrian, cyclist or property access		Yes			Yes, construction environmental management plans are expected to manage these changes	Potential for access changes due to construction activities along the road corridor for residents and businesses
	alter public transport services or facilities		Yes			Yes, construction environmental management plans are expected to manage these changes	Potential for delays in the public transport network as a result of construction activities.
	alter travel patterns			Yes		Yes, construction environmental management plans are expected to manage these changes	Potential for access changes due to construction activities along the road corridor for residents and businesses
	impact on traffic flow			Yes		Yes, construction environmental management plans are expected to manage these changes	Potential for access changes due to construction activities along the road corridor for residents and businesses

Appendix B

Detailed socio-economic profile

Table B.1 Detailed socio-economic profile

Key indicator	Description																																																							
Social characteristics																																																								
Population	At the time of the 2016 Census, Hillsborough had a population of 652 people, representing 0.3 per cent of the total population of Lake Macquarie LGA (197,371 people). The population of Cardiff South was 2,830 in 2016, representing 1.4 per cent of total population of Lake Macquarie LGA. The population of Warners Bay was 7,614 in 2016, representing 3.9 per cent of total population of Lake Macquarie LGA.																																																							
Indigenous population	<p>Table B.2 provides a profile of the Indigenous population within the local study area and the LGA. Hillsborough and Cardiff South had a higher proportion of Indigenous people (5.1 per cent and 5.4 per cent respectively), compared to Warners Bay (2.4 per cent) and the Lake Macquarie LGA (4.1 per cent). However, it is important to note the very small population size of Hillsborough, which equates to a small Indigenous population of 33 people.</p> <p>Table B.2 Indigenous population, 2016</p> <table border="1"> <thead> <tr> <th></th> <th>Total number</th> <th>Proportion of the population</th> </tr> </thead> <tbody> <tr> <td>Hillsborough</td> <td>33</td> <td>5.1%</td> </tr> <tr> <td>Cardiff South</td> <td>154</td> <td>5.4%</td> </tr> <tr> <td>Warners Bay</td> <td>180</td> <td>2.4%</td> </tr> <tr> <td>Lake Macquarie LGA</td> <td>8,032</td> <td>4.1%</td> </tr> </tbody> </table>		Total number	Proportion of the population	Hillsborough	33	5.1%	Cardiff South	154	5.4%	Warners Bay	180	2.4%	Lake Macquarie LGA	8,032	4.1%																																								
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Age profile	<p>Cardiff South had the lowest median age of 38 years. Hillsborough had a median age 40 years, Warners Bay had 43 and the Lake Macquarie LGA had a median age of 42 years.</p> <p>Figure B.1 provides an age cohort profile of the local study area. The largest age group in Hillsborough, Cardiff South and Warners Bay was 35 to 49 (career and home building) (19.5 per cent, 20.3 per cent and 19.6 per cent, respectively) The largest age group for the Lake Macquarie LGA was 50 to 64 (senior workforce) (19.8 per cent).</p> <p>There were fewer people over 65 years in Hillsborough (18.7 per cent) and Cardiff South (14.8 per cent) compared to Warners Bay (23.8 per cent) and Lake Macquarie LGA (20.6 per cent). Hillsborough and Cardiff South had a slightly higher proportion of people under 24 years (32.6 per cent and 31.9 per cent, respectively) compared to Warners Bay and Lake Macquarie LGA (29.3 per cent and 30.0 per cent, respectively).</p> <div data-bbox="359 1198 1492 1792"> <table border="1"> <caption>AGE PROFILE</caption> <thead> <tr> <th>Age Group (Years)</th> <th>Hillsborough State Suburb (SSC11909)</th> <th>Cardiff South State Suburb (SSC10811)</th> <th>Warners Bay State Suburb (SSC14153)</th> <th>Lake Macquarie LGA (LGA14650)</th> </tr> </thead> <tbody> <tr> <td>0 TO 4</td> <td>6.1%</td> <td>6.7%</td> <td>5.8%</td> <td>6.0%</td> </tr> <tr> <td>5 TO 11</td> <td>9.7%</td> <td>9.1%</td> <td>8.0%</td> <td>8.7%</td> </tr> <tr> <td>12 TO 17</td> <td>10.1%</td> <td>8.2%</td> <td>8.1%</td> <td>7.4%</td> </tr> <tr> <td>18 TO 24</td> <td>6.7%</td> <td>7.9%</td> <td>7.4%</td> <td>7.9%</td> </tr> <tr> <td>25 TO 34</td> <td>13.0%</td> <td>14.1%</td> <td>9.7%</td> <td>11.0%</td> </tr> <tr> <td>35 TO 49</td> <td>19.5%</td> <td>20.3%</td> <td>19.6%</td> <td>18.6%</td> </tr> <tr> <td>50 TO 64</td> <td>18.7%</td> <td>18.9%</td> <td>17.5%</td> <td>19.8%</td> </tr> <tr> <td>65 TO 74</td> <td>11.3%</td> <td>8.1%</td> <td>12.4%</td> <td>11.3%</td> </tr> <tr> <td>75 TO 84</td> <td>6.1%</td> <td>4.6%</td> <td>8.2%</td> <td>6.4%</td> </tr> <tr> <td>85+</td> <td>0.5%</td> <td>1.7%</td> <td>3.1%</td> <td>2.9%</td> </tr> </tbody> </table> </div>	Age Group (Years)	Hillsborough State Suburb (SSC11909)	Cardiff South State Suburb (SSC10811)	Warners Bay State Suburb (SSC14153)	Lake Macquarie LGA (LGA14650)	0 TO 4	6.1%	6.7%	5.8%	6.0%	5 TO 11	9.7%	9.1%	8.0%	8.7%	12 TO 17	10.1%	8.2%	8.1%	7.4%	18 TO 24	6.7%	7.9%	7.4%	7.9%	25 TO 34	13.0%	14.1%	9.7%	11.0%	35 TO 49	19.5%	20.3%	19.6%	18.6%	50 TO 64	18.7%	18.9%	17.5%	19.8%	65 TO 74	11.3%	8.1%	12.4%	11.3%	75 TO 84	6.1%	4.6%	8.2%	6.4%	85+	0.5%	1.7%	3.1%	2.9%
Age Group (Years)	Hillsborough State Suburb (SSC11909)	Cardiff South State Suburb (SSC10811)	Warners Bay State Suburb (SSC14153)	Lake Macquarie LGA (LGA14650)																																																				
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Figure B.1 Age profile, 2016																																																								

Key indicator	Description																																																		
Sex profile	<p>The local study area has the following sex profile:</p> <ul style="list-style-type: none"> – Hillsborough had a higher proportion of females (50.8 per cent) compared to males (49.2 per cent) – Cardiff South had a higher proportion of females (52.0 per cent) compared to males (48.0 per cent) – Warners Bay had a higher proportion of females (52.9 per cent) compared to males (47.1 per cent) – Lake Macquarie LGA had a higher proportion of females (51.2 per cent) compared to males (48.8 per cent) 																																																		
Cultural diversity	<p>As shown in Table B.3, the proportion of the population who spoke a language other than English at home was lower in Hillsborough compared to the other suburbs and the LGA. Hillsborough and Cardiff South also have a lower proportion of people born in non-English speaking countries compared to Warners Bay and the Lake Macquarie LGA.</p> <p><i>Table B.3 Cultural diversity, 2016</i></p> <table border="1"> <thead> <tr> <th></th> <th>Language spoken at home other than English</th> <th>Born in non-English speaking country</th> </tr> </thead> <tbody> <tr> <td>Hillsborough</td> <td>2.3%</td> <td>2.1%</td> </tr> <tr> <td>Cardiff South</td> <td>4.8%</td> <td>4.8%</td> </tr> <tr> <td>Warners Bay</td> <td>4.5%</td> <td>6.4%</td> </tr> <tr> <td>Lake Macquarie LGA</td> <td>4.4%</td> <td>5.5%</td> </tr> </tbody> </table>		Language spoken at home other than English	Born in non-English speaking country	Hillsborough	2.3%	2.1%	Cardiff South	4.8%	4.8%	Warners Bay	4.5%	6.4%	Lake Macquarie LGA	4.4%	5.5%																																			
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Family composition	<p>The average household sizes in 2016 was consistent across the local study area, where it was 2.8 in Hillsborough, 2.5 in Cardiff South, 2.5 in Warners Bay and 2.5 in the Lake Macquarie LGA.</p> <p>The most prevalent household type across the local study area were family households, where Hillsborough had the highest proportion (82.6 per cent) compared to Cardiff South, Warners Bay and the LGA (71.7 per cent, 70.0 per cent and 73.5 per cent, respectively).</p>																																																		
Economic profile																																																			
Labour force	<p>Table B.4 shows labour force and employment statistics for the local study area as at the 2016 Census. The proportion of the labour force employed in the local study area was higher compared to that of the Lake Macquarie LGA. The rate of unemployment in the local study area was also lower when compared to the Lake Macquarie LGA.</p> <p><i>Table B.4 Labour force participation, 2016</i></p> <table border="1"> <thead> <tr> <th></th> <th>Employed</th> <th>Unemployed</th> <th>Labour force not stated</th> <th>Labour force participation</th> </tr> </thead> <tbody> <tr> <td>Hillsborough</td> <td>96.9%</td> <td>6.2%</td> <td>2.8%</td> <td>60.3%</td> </tr> <tr> <td>Cardiff South</td> <td>94.5%</td> <td>5.7%</td> <td>3.5%</td> <td>64.3%</td> </tr> <tr> <td>Warners Bay</td> <td>94.0%</td> <td>6.1%</td> <td>4.4%</td> <td>56.1%</td> </tr> <tr> <td>Lake Macquarie LGA</td> <td>93.1%</td> <td>6.9%</td> <td>4.7%</td> <td>56.8%</td> </tr> </tbody> </table>		Employed	Unemployed	Labour force not stated	Labour force participation	Hillsborough	96.9%	6.2%	2.8%	60.3%	Cardiff South	94.5%	5.7%	3.5%	64.3%	Warners Bay	94.0%	6.1%	4.4%	56.1%	Lake Macquarie LGA	93.1%	6.9%	4.7%	56.8%																									
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Industry of employment	<p>As shown in Figure B.2, the top industries of employment vary across the local study area. However, across the local study area and the Lake Macquarie LGA, Health Care and Social Assistance was the largest industry. Education and Training, Retail Trade, Accommodation and Food Services, and Construction were other key industries of employment across the local study area and the Lake Macquarie LGA.</p> <table border="1"> <thead> <tr> <th>Industry</th> <th>Hillsborough</th> <th>Cardiff South</th> <th>Warners Bay</th> <th>Lake Macquarie LGA</th> </tr> </thead> <tbody> <tr> <td>Health Care and Social Assistance</td> <td>18.5%</td> <td>15.9%</td> <td>17.6%</td> <td>16.8%</td> </tr> <tr> <td>Education and Training</td> <td>11.9%</td> <td>6.9%</td> <td>9.7%</td> <td>8.9%</td> </tr> <tr> <td>Retail Trade</td> <td>9.9%</td> <td>11.8%</td> <td>10.1%</td> <td>10.4%</td> </tr> <tr> <td>Accommodation and Food Services</td> <td>9.6%</td> <td>7.0%</td> <td>7.8%</td> <td>6.8%</td> </tr> <tr> <td>Construction</td> <td>7.6%</td> <td>9.5%</td> <td>9.7%</td> <td>10.4%</td> </tr> <tr> <td>Manufacturing</td> <td>6.6%</td> <td>8.0%</td> <td>5.5%</td> <td>6.6%</td> </tr> <tr> <td>Public Administration and Safety</td> <td>6.3%</td> <td>6.5%</td> <td>6.4%</td> <td>5.9%</td> </tr> <tr> <td>Financial and Insurance Services</td> <td>5.9%</td> <td>4.0%</td> <td>3.7%</td> <td>3.3%</td> </tr> <tr> <td>Transport, Postal and Warehousing</td> <td>5.0%</td> <td>4.5%</td> <td>3.9%</td> <td>4.2%</td> </tr> </tbody> </table> <p><i>Figure B.2 Industries of employment, 2016</i></p>	Industry	Hillsborough	Cardiff South	Warners Bay	Lake Macquarie LGA	Health Care and Social Assistance	18.5%	15.9%	17.6%	16.8%	Education and Training	11.9%	6.9%	9.7%	8.9%	Retail Trade	9.9%	11.8%	10.1%	10.4%	Accommodation and Food Services	9.6%	7.0%	7.8%	6.8%	Construction	7.6%	9.5%	9.7%	10.4%	Manufacturing	6.6%	8.0%	5.5%	6.6%	Public Administration and Safety	6.3%	6.5%	6.4%	5.9%	Financial and Insurance Services	5.9%	4.0%	3.7%	3.3%	Transport, Postal and Warehousing	5.0%	4.5%	3.9%	4.2%
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Key indicator	Description																																																		
Occupation	<p>Figure B.3 shows the occupation of people in the local study area in 2016. Technicians and trades and professionals were the top two professions across the study area and Lake Macquarie LGA. Managers and Machinery operator and drivers were the least common occupations across the study area and the Lake Macquarie LGA.</p> <table border="1"> <thead> <tr> <th>Occupation</th> <th>Hillsborough</th> <th>Cardiff South</th> <th>Warners Bay</th> <th>Lake Macquarie LGA</th> </tr> </thead> <tbody> <tr> <td>Technicians and trades</td> <td>18.8%</td> <td>18.4%</td> <td>14.1%</td> <td>16.1%</td> </tr> <tr> <td>Professionals</td> <td>16.2%</td> <td>15.2%</td> <td>22.2%</td> <td>20.1%</td> </tr> <tr> <td>Clerical and administrative</td> <td>16.2%</td> <td>16.1%</td> <td>15.9%</td> <td>14.3%</td> </tr> <tr> <td>Community and personal service</td> <td>12.3%</td> <td>12.6%</td> <td>11.8%</td> <td>11.5%</td> </tr> <tr> <td>Sales</td> <td>12.3%</td> <td>11.4%</td> <td>10.6%</td> <td>10.1%</td> </tr> <tr> <td>Labourers</td> <td>8.4%</td> <td>8.8%</td> <td>8.9%</td> <td>9.8%</td> </tr> <tr> <td>Managers</td> <td>8.1%</td> <td>8.2%</td> <td>10.1%</td> <td>9.9%</td> </tr> <tr> <td>Machinery operators and drivers</td> <td>6.1%</td> <td>7.8%</td> <td>5.2%</td> <td>6.8%</td> </tr> <tr> <td>Not Stated</td> <td>1.6%</td> <td>1.5%</td> <td>1.1%</td> <td>1.5%</td> </tr> </tbody> </table> <p><i>Figure B.3 Occupation, 2016</i></p>	Occupation	Hillsborough	Cardiff South	Warners Bay	Lake Macquarie LGA	Technicians and trades	18.8%	18.4%	14.1%	16.1%	Professionals	16.2%	15.2%	22.2%	20.1%	Clerical and administrative	16.2%	16.1%	15.9%	14.3%	Community and personal service	12.3%	12.6%	11.8%	11.5%	Sales	12.3%	11.4%	10.6%	10.1%	Labourers	8.4%	8.8%	8.9%	9.8%	Managers	8.1%	8.2%	10.1%	9.9%	Machinery operators and drivers	6.1%	7.8%	5.2%	6.8%	Not Stated	1.6%	1.5%	1.1%	1.5%
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Median weekly income	<p>In 2016, the median weekly individual income was higher in Hillsborough, Cardiff South and Warners Bay (\$667, \$654 and \$626 respectively) compared to the Lake Macquarie LGA (\$609).</p> <p>In 2016, Hillsborough had a median weekly household income of \$1,542, higher than that of Cardiff South at \$1,386, Warners Bay at \$1,231 and Lake Macquarie LGA at \$1,313.</p>																																																		
High and low income households	<p>As shown in Table B.5, there was lower proportion of households with a low income in Hillsborough compared to Cardiff South, Warners Bay and the Lake Macquarie LGA. There was a higher proportion of households with a high income in Hillsborough compared to Cardiff South, Warners Bay and the Lake Macquarie LGA.</p> <p><i>Table B.5 Proportion of high and low income households, 2016</i></p> <table border="1"> <thead> <tr> <th></th> <th>Below \$650 per week</th> <th>Greater than \$2,000 a week</th> </tr> </thead> <tbody> <tr> <td>Hillsborough</td> <td>10.0%</td> <td>35.5%</td> </tr> <tr> <td>Cardiff South</td> <td>20.0%</td> <td>28.5%</td> </tr> <tr> <td>Warners Bay</td> <td>19.3%</td> <td>27.3%</td> </tr> <tr> <td>Lake Macquarie LGA</td> <td>19.3%</td> <td>28.6%</td> </tr> </tbody> </table>		Below \$650 per week	Greater than \$2,000 a week	Hillsborough	10.0%	35.5%	Cardiff South	20.0%	28.5%	Warners Bay	19.3%	27.3%	Lake Macquarie LGA	19.3%	28.6%																																			
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Dwellings	<p>In 2016, there was a lower proportion of unoccupied dwellings in Hillsborough (4.2 per cent), Cardiff South (6.3 per cent) and Warners Bay (7.3 per cent) compared to the Lake Macquarie LGA (8.8 per cent).</p>																																																		
Household tenure	<p>As shown in Table B.6, dwellings within the study area and the Lake Macquarie LGA were owned outright or with a mortgage in 2016. There was a lower proportion of rented dwellings in Hillsborough compared to the rest of the study area.</p> <p><i>Table B.6 Dwelling tenure, 2016</i></p> <table border="1"> <thead> <tr> <th></th> <th>Hillsborough</th> <th>Cardiff South</th> <th>Warners Bay</th> <th>Lake Macquarie LGA</th> </tr> </thead> <tbody> <tr> <td>Fully owned</td> <td>41.5%</td> <td>33.1%</td> <td>43.1%</td> <td>37.7%</td> </tr> <tr> <td>Owned with a mortgage</td> <td>44.6%</td> <td>43.0%</td> <td>30.3%</td> <td>35.8%</td> </tr> <tr> <td>Rented</td> <td>13.8%</td> <td>21.7%</td> <td>23.6%</td> <td>23.0%</td> </tr> </tbody> </table>		Hillsborough	Cardiff South	Warners Bay	Lake Macquarie LGA	Fully owned	41.5%	33.1%	43.1%	37.7%	Owned with a mortgage	44.6%	43.0%	30.3%	35.8%	Rented	13.8%	21.7%	23.6%	23.0%																														
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Community vulnerability profile																																																			
Socio-economic disadvantage	<p>The ABS produces four socio-economic indices for areas (SEIFA) based on Census data, which identify areas of relative advantage and disadvantage. The Index of Relative Socio-Economic Advantage/Disadvantage (IRSAD) was examined for the social locality.</p> <p>The IRSAD divides a population into ten equal groups, called a decile. The lowest scoring 10 per cent of these groups are given a decile number of 1, which indicates the highest level of disadvantage, and the highest scoring 10 per cent of areas are given a decile of 10, which indicates the highest level of advantage.</p>																																																		

Key indicator	Description															
	<p>Within the local study area, the statistical areas are ranked within the state as follows:</p> <ul style="list-style-type: none"> – Hillsborough had slightly low disadvantage and was placed within decile 6. – Cardiff South had relatively high disadvantage and was placed within decile 4. – Warners Bay had slightly low disadvantage and was placed within decile 6. – Lake Macquarie LGA had relatively low disadvantage and was placed within decile 7. 															
Need for assistance	In 2016, the proportion of the population who required assistance with daily activities in Hillsborough (5.2 per cent), Cardiff South (5.2 per cent) and Warners Bay (5.8 per cent) was lower than that of Lake Macquarie LGA (6.6 per cent).															
Mobility	<p>Table B.7 shows that Hillsborough and Cardiff South had higher proportions of the population living at the same address one year ago and five years ago, compared to Warners Bay and Lake Macquarie LGA.</p> <p><i>Table B.7 Population mobility, 2016</i></p> <table border="1"> <thead> <tr> <th></th> <th>Lived at the same address 1 year ago</th> <th>Lived at the same address 5 years ago</th> </tr> </thead> <tbody> <tr> <td>Hillsborough</td> <td>86.0%</td> <td>67.4%</td> </tr> <tr> <td>Cardiff South</td> <td>83.5%</td> <td>64.0%</td> </tr> <tr> <td>Warners Bay</td> <td>80.3%</td> <td>58.6</td> </tr> <tr> <td>Lake Macquarie LGA</td> <td>81.2%</td> <td>59.9%</td> </tr> </tbody> </table>		Lived at the same address 1 year ago	Lived at the same address 5 years ago	Hillsborough	86.0%	67.4%	Cardiff South	83.5%	64.0%	Warners Bay	80.3%	58.6	Lake Macquarie LGA	81.2%	59.9%
	Lived at the same address 1 year ago	Lived at the same address 5 years ago														
Hillsborough	86.0%	67.4%														
Cardiff South	83.5%	64.0%														
Warners Bay	80.3%	58.6														
Lake Macquarie LGA	81.2%	59.9%														

Appendix C

Demographic indicators

Table C.1 Demographic indicators (ABS 2016)

	Hillsborough State Suburb (SSC11909)		Cardiff South State Suburb (SSC10811)		Warners Bay State Suburb (SSC14153)		Lake Macquarie LGA (LGA14650)	
Total Persons	652	100.0%	2,830	100.0%	7,614	100.0%	197,371	100.0%
Service age groups (persons) - place of usual residence								
Babies and pre-schoolers (0-4)	40	6.1%	189	6.7%	442	5.8%	11,845	6.0%
Primary schoolers (5 to 11)	63	9.7%	258	9.1%	611	8.0%	17,190	8.7%
Secondary schoolers (12 to 17)	66	10.1%	231	8.2%	617	8.1%	14,579	7.4%
Tertiary education and young workforce (18 to 24)	44	6.7%	224	7.9%	566	7.4%	15,595	7.9%
Young workforce (25 to 34)	85	13.0%	398	14.1%	742	9.7%	21,738	11.0%
Career and home building (35 to 49)	127	19.5%	575	20.3%	1,489	19.6%	36,650	18.6%
Senior workforce (50 to 64)	122	18.7%	536	18.9%	1,330	17.5%	39,172	19.8%
Retirees (65 to 74)	74	11.3%	229	8.1%	947	12.4%	22,287	11.3%
Seniors (75 to 84)	40	6.1%	129	4.6%	624	8.2%	12,634	6.4%
Elderly (85+)	3	0.5%	47	1.7%	234	3.1%	5,680	2.9%
Age-related summary stats								
Under 18 years	169	25.9%	678	24.0%	1,670	21.9%	43,614	22.1%
15 years and over	532	81.6%	2,261	79.9%	6,257	82.2%	161,262	81.7%
Under 15 years	122	18.7%	570	20.1%	1,357	17.8%	36,112	18.3%
Over 65 years	122	18.7%	419	14.8%	1,811	23.8%	40,602	20.6%
Dependency ratio	60	NA	54	NA	71	NA	64	NA
Median Age (years)	40	NA	38	NA	43	NA	42	NA
Service age groups (males) - place of usual residence								
Babies and pre-schoolers (0-4)	17	2.6%	91	3.2%	217	2.9%	6,122	3.1%
Primary schoolers (5 to 11)	43	6.6%	122	4.3%	312	4.1%	8,825	4.5%
Secondary schoolers (12 to 17)	24	3.7%	118	4.2%	313	4.1%	7,520	3.8%
Tertiary education and young workforce (18 to 24)	21	3.2%	114	4.0%	285	3.7%	8,058	4.1%
Young workforce (25 to 34)	39	6.0%	184	6.5%	359	4.7%	10,642	5.4%
Career and home building (35 to 49)	62	9.5%	285	10.1%	708	9.3%	17,872	9.1%
Senior workforce (50 to 64)	49	7.5%	255	9.0%	604	7.9%	18,824	9.5%
Retirees (65 to 74)	38	5.8%	104	3.7%	416	5.5%	10,629	5.4%
Seniors (75 to 84)	19	2.9%	53	1.9%	270	3.5%	5,689	2.9%
Elderly (85+)	NA	0.0%	17	0.6%	82	1.1%	2,109	1.1%
Total males	312	47.9%	1,343	47.5%	3,566	46.8%	96,290	48.8%
Service age groups (females) - place of usual residence								
Babies and pre-schoolers (0-4)	19	2.9%	98	3.5%	222	2.9%	5,724	2.9%
Primary schoolers (5 to 11)	27	4.1%	137	4.8%	291	3.8%	8,361	4.2%

	Hillsborough State Suburb (SSC11909)		Cardiff South State Suburb (SSC10811)		Warners Bay State Suburb (SSC14153)		Lake Macquarie LGA (LGA14650)	
Secondary schoolers (12 to 17)	27	4.1%	114	4.0%	299	3.9%	7,063	3.6%
Tertiary education and young workforce (18 to 24)	26	4.0%	103	3.6%	277	3.6%	7,546	3.8%
Young workforce (25 to 34)	40	6.1%	211	7.5%	384	5.0%	11,097	5.6%
Career and home building (35 to 49)	61	9.4%	292	10.3%	785	10.3%	18,775	9.5%
Senior workforce (50 to 64)	69	10.6%	282	10.0%	726	9.5%	20,353	10.3%
Retirees (65 to 74)	45	6.9%	130	4.6%	538	7.1%	11,657	5.9%
Seniors (75 to 84)	20	3.1%	69	2.4%	362	4.8%	6,942	3.5%
Elderly (85+)	3	0.5%	39	1.4%	150	2.0%	3,570	1.8%
Total females	337	51.7%	1,475	52.1%	4,034	53.0%	101,088	51.2%
Cultural Diversity:								
Indigenous persons	33	5.1%	154	5.4%	180	2.4%	8,032	4.1%
Persons born in non-English Speaking countries	14	2.1%	135	4.8%	484	6.4%	10,770	5.5%
Country of birth not stated	23	3.5%	102	3.6%	352	4.6%	9,424	4.8%
Total - Country of birth (for calculation purposes only)	652		2,830		7,614		197,371	
Language spoken at home other than English	15	2.3%	136	4.8%	346	4.5%	8,752	4.4%
Speaks English Only	625	95.9%	2,609	92.2%	6,954	91.3%	180,098	91.2%
Speaks other language and speaks English very well or well	13	2.0%	119	4.2%	292	3.8%	7,590	3.8%
Speaks other language and speaks English not well or not at all	NA	0.0%	11	0.4%	47	0.6%	1,019	0.5%
Language spoken at home other than English Not stated	17	2.6%	90	3.2%	312	4.1%	8,517	4.3%
Dwelling Characteristics (describes family structures within dwellings):								
Family households	185	82.6%	764	71.7%	2,105	70.0%	53,698	73.5%
Lone person household	35	15.6%	273	25.6%	844	28.1%	17,610	24.1%
Group household	3	1.3%	33	3.1%	56	1.9%	1,763	2.4%
Total occupied dwellings	224	95.7%	1,065	93.8%	3,007	92.7%	73,075	91.2%
Total unoccupied dwellings	10	4.3%	71	6.3%	237	7.3%	7,031	8.8%
Dwelling structure not stated	NA	0.0%	NA	0.0%	9	0.3%	162	0.2%
Average household size (number of persons)	2.8	NA	2.5	NA	2.4	NA	2.5	NA
Average number of persons per bedroom	1	NA	1	NA	1	NA	1	NA
Family Characteristics:								
Total families	188	NA	784	NA	2,148	NA	55,032	NA
Couple family with children	88	46.8%	368	46.9%	824	38.4%	23,096	42.0%

	Hillsborough State Suburb (SSC11909)		Cardiff South State Suburb (SSC10811)		Warners Bay State Suburb (SSC14153)		Lake Macquarie LGA (LGA14650)	
Couple with children under 15 years	52	27.7%	250	31.9%	540	25.1%	14,981	27.2%
Couple with children over 15 years	38	20.2%	118	15.1%	280	13.0%	8,115	14.7%
Couple family without children	69	36.7%	263	33.5%	894	41.6%	21,711	39.5%
One parent family	37	19.7%	148	18.9%	397	18.5%	9,566	17.4%
One parent with children under 15 years	13	35.1%	73	49.3%	194	48.9%	4,646	48.6%
One parent with children over 15 years	23	62.2%	75	50.7%	207	52.1%	4,920	51.4%
Other family	NA	0.0%	10	1.3%	30	1.4%	661	1.2%
Other characteristics:								
Need for assistance	34	5.2%	148	5.2%	438	5.8%	13,085	6.6%
Need for assistance not stated	22	3.4%	111	3.9%	369	4.8%	9,713	4.9%
Dwellings – occupancy:								
Total occupied dwellings	224	93.3%	1,065	94.2%	3,007	92.6%	73,075	91.2%
Unoccupied private dwellings	10	4.2%	71	6.3%	237	7.3%	7,031	8.8%
Total private dwellings	240	NA	1,131	NA	3,247	NA	80,105	NA
Persons per household:								
Average number of persons per household	2.8	NA	2.5	NA	2.4	NA	2.5	NA
Dwelling structure:								
Separate House	225	100.4%	960	90.1%	2,183	72.6%	62,390	85.4%
Semi-detached, terrace house, townhouse	NA	0.0%	82	7.7%	671	22.3%	7,106	9.7%
Flat, unit or apartment	5	2.2%	22	2.1%	146	4.9%	2,788	3.8%
Other dwellings	NA	0.0%	3	0.3%	NA	0.0%	630	0.9%
Not stated	NA	0.0%	NA	0.0%	9	0.3%	162	0.2%
Tenure type:								
Fully owned	93	41.5%	352	33.1%	1,295	43.1%	27,569	37.7%
Owned with a mortgage	100	44.6%	458	43.0%	910	30.3%	26,186	35.8%
Owned (fully or with a mortgage)	193	86.2%	810	76.1%	2,205	73.3%	53,755	73.6%
Rented (Total):	31	13.8%	231	21.7%	710	23.6%	16,794	23.0%
Real estate agent	16	51.6%	147	63.6%	474	66.8%	9,175	54.6%
State or territory housing authority	NA	0.0%	13	5.6%	51	7.2%	3,215	19.1%
Person not in same household	8	25.8%	60	26.0%	169	23.8%	3,326	19.8%
Housing co-operative/community/church group	NA	0.0%	4	1.7%	8	1.1%	414	2.5%
Other landlord type	NA	0.0%	NA	0.0%	4	0.6%	413	2.5%
Landlord type not stated	NA	0.0%	6	2.6%	11	1.5%	244	1.5%

	Hillsborough State Suburb (SSC11909)		Cardiff South State Suburb (SSC10811)		Warners Bay State Suburb (SSC14153)		Lake Macquarie LGA (LGA14650)	
Other Tenure Type	NA	0.0%	3	0.3%	13	0.4%	798	1.1%
Tenure type not stated	NA	0.0%	23	2.2%	81	2.7%	1,741	2.4%
Individual income:								
Median Individual Income (\$/weekly)	667	NA	654	NA	626	NA	609	NA
Negative/Nil Income	49	9.2%	188	8.3%	419	6.7%	12,221	7.6%
\$1-\$149	25	4.7%	89	3.9%	299	4.8%	6,939	4.3%
\$150-\$299	41	7.7%	131	5.8%	433	6.9%	11,664	7.2%
\$300-\$399	34	6.4%	225	10.0%	708	11.3%	17,222	10.7%
\$400-\$499	47	8.9%	220	9.7%	610	9.7%	16,807	10.4%
\$500-\$649	51	9.6%	203	9.0%	541	8.6%	13,953	8.7%
\$650-\$799	41	7.7%	205	9.1%	504	8.0%	12,961	8.0%
\$800-\$999	63	11.9%	224	9.9%	519	8.3%	13,275	8.2%
\$1,000-\$1,249	52	9.8%	196	8.7%	530	8.5%	13,546	8.4%
\$1,250-\$1,499	34	6.4%	132	5.8%	307	4.9%	8,505	5.3%
\$1,500-\$1,749	22	4.2%	140	6.2%	305	4.9%	7,287	4.5%
\$1,750-\$1,999	13	2.5%	79	3.5%	210	3.4%	5,179	3.2%
\$2,000-\$2,999	33	6.2%	75	3.3%	325	5.2%	7,096	4.4%
\$3,000 or more	4	0.8%	18	0.8%	146	2.3%	3,371	2.1%
Individual income not stated	21	4.0%	133	5.9%	408	6.5%	11,227	7.0%
Household income:								
Median Household income (\$/weekly)	1,542	NA	1,386	NA	1,231	NA	1,313	NA
Negative/Nil income	NA	0.0%	7	0.7%	30	1.0%	731	1.0%
\$1-\$149	NA	0.0%	10	0.9%	13	0.4%	434	0.6%
\$150-\$299	3	1.4%	5	1.4%	46	1.5%	1,341	1.8%
\$300-\$399	NA	0.0%	28	2.6%	91	3.0%	2,272	3.1%
\$400-\$499	12	5.7%	99	9.2%	247	8.2%	5,983	8.2%
\$500-\$649	6	2.8%	55	5.1%	152	5.1%	3,359	4.6%
\$650-\$799	19	9.0%	92	8.6%	291	9.7%	6,297	8.6%
\$800-\$999	16	7.6%	56	5.2%	241	8.0%	5,115	7.0%
\$1,000-\$1,249	25	11.8%	82	7.6%	276	9.2%	6,149	8.4%
\$1,250-\$1,499	15	7.1%	80	7.5%	208	6.9%	5,337	7.3%
\$1,500-\$1,749	6	2.8%	75	7.0%	164	5.5%	4,181	5.7%
\$1,750-\$1,999	19	9.0%	70	6.5%	145	4.8%	3,953	5.4%
\$2,000-\$2,499	32	15.2%	129	12.0%	305	10.2%	7,374	10.1%
\$2,500-\$2,999	24	11.4%	79	7.4%	160	5.3%	4,874	6.7%
\$3,000-\$3,499	7	3.3%	49	4.6%	114	3.8%	3,016	4.1%
\$3,500-\$3,999	6	2.8%	18	1.7%	91	3.0%	2,105	2.9%
\$4,000 or more	6	2.8%	31	2.9%	148	4.9%	3,532	4.8%

	Hillsborough State Suburb (SSC11909)		Cardiff South State Suburb (SSC10811)		Warners Bay State Suburb (SSC14153)		Lake Macquarie LGA (LGA14650)	
Partial income stated(c)	15	7.1%	68	6.3%	203	6.8%	5,230	7.2%
All incomes not stated(d)	NA	0.0%	29	2.7%	76	2.5%	1,797	2.5%
Labour force:								
Persons 15 years and over	532	NA	2,261	NA	6,257	NA	161,262	NA
Total labour force	321	NA	1,454	NA	3,513	NA	91,558	NA
Total employed	311	96.9%	1,374	94.5%	3,302	94.0%	85,263	93.1%
Employed full-time	186	59.8%	841	61.2%	1,943	58.8%	50,244	58.9%
Employed part-time	116	37.3%	465	33.8%	1,200	36.3%	30,476	35.7%
Unemployed persons	20	6.2	83	5.7	214	6.1	6,295	6.9
Labour force participation (15 years and over)	NA	60.3%	NA	64.3%	NA	56.1%	NA	56.8%
Occupation:								
Managers	25	8.1%	112	8.2%	333	10.1%	8,453	9.9%
Professionals	50	16.2%	207	15.2%	731	22.2%	17,116	20.1%
Technicians and trades	58	18.8%	251	18.4%	464	14.1%	13,704	16.1%
Community and personal service	38	12.3%	172	12.6%	390	11.8%	9,812	11.5%
Clerical and administrative	50	16.2%	220	16.1%	525	15.9%	12,170	14.3%
Sales	38	12.3%	156	11.4%	351	10.6%	8,597	10.1%
Machinery operators and drivers	19	6.1%	107	7.8%	172	5.2%	5,768	6.8%
Labourers	26	8.4%	120	8.8%	295	8.9%	8,395	9.8%
Not Stated	5	1.6%	20	1.5%	36	1.1%	1,253	1.5%
Key industry								
Agriculture, Forestry and Fishing	NA	0.0%	3	0.2%	3	0.1%	352	0.4%
Mining	5	1.7%	41	3.0%	76	2.3%	2,219	2.6%
Manufacturing	20	6.6%	109	8.0%	181	5.5%	5,618	6.6%
Electricity, Gas, Water and Waste Services	5	1.7%	20	1.5%	47	1.4%	1,361	1.6%
Construction	23	7.6%	130	9.5%	320	9.7%	8,835	10.4%
Wholesale Trade	9	3.0%	33	2.4%	71	2.1%	1,872	2.2%
Retail Trade	30	9.9%	162	11.8%	334	10.1%	8,861	10.4%
Accommodation and Food Services	29	9.6%	96	7.0%	259	7.8%	5,771	6.8%
Transport, Postal and Warehousing	15	5.0%	61	4.5%	129	3.9%	3,544	4.2%
Information Media and Telecommunications	NA	0.0%	11	0.8%	35	1.1%	795	0.9%
Financial and Insurance Services	18	5.9%	55	4.0%	123	3.7%	2,811	3.3%
Rental, Hiring and Real Estate Services	4	1.3%	23	1.7%	46	1.4%	1,200	1.4%

	Hillsborough State Suburb (SSC11909)		Cardiff South State Suburb (SSC10811)		Warners Bay State Suburb (SSC14153)		Lake Macquarie LGA (LGA14650)	
Professional, Scientific and Technical Services	3	1.0%	59	4.3%	189	5.7%	4,514	5.3%
Administrative and Support Services	10	3.3%	38	2.8%	104	3.1%	2,838	3.3%
Public Administration and Safety	19	6.3%	89	6.5%	213	6.4%	5,028	5.9%
Education and Training	36	11.9%	94	6.9%	321	9.7%	7,572	8.9%
Health Care and Social Assistance	56	18.5%	218	15.9%	580	17.6%	14,336	16.8%
Arts and Recreation Services	4	1.3%	9	0.7%	46	1.4%	990	1.2%
Other Services	11	3.6%	71	5.2%	132	4.0%	3,668	4.3%
Inadequately described/Not stated	6	2.0%	47	3.4%	94	2.8%	3,064	3.6%
Mobility:								
Lived at same address 1 year ago	555	86.0%	2,327	83.5%	6,055	80.3%	158,538	81.2%
Lived at a different address 1 year ago	57	8.8%	305	10.9%	1,004	13.3%	24,250	12.4%
Address 1 year ago - not stated	37	5.7%	152	5.5%	481	6.4%	12,404	6.4%
Place of usual residence 1 year ago - total answers for calculation purposes	645	NA	2,788	NA	7,545	NA	195,197	NA
Lived at same address 5 years ago	415	67.4%	1,693	64.0%	4,196	58.5%	111,090	59.9%
Lived at a different address 5 years ago	175	28.4%	856	32.4%	2,612	36.4%	64,907	35.0%
Address 5 years ago - not stated	27	4.4%	92	3.5%	364	5.1%	9,530	5.1%
Volunteering:								
Volunteered	84	15.8%	343	15.2%	1,153	18.4%	28,981	18.0%
Not stated	19	3.6%	98	4.3%	360	5.8%	9,829	6.1%
Transport:								
Households without a motor vehicle	8	3.6%	59	5.5%	183	6.1%	4,186	5.7%
One motor vehicle	69	30.8%	385	36.2%	1,108	36.8%	24,083	33.0%
Two motor vehicles	93	41.5%	388	36.4%	1,135	37.7%	27,986	38.3%
Three motor vehicles	31	13.8%	129	12.1%	345	11.5%	9,419	12.9%
Four or more motor vehicles	15	6.7%	69	6.5%	167	5.6%	4,943	6.8%
Not Stated	5	2.2%	25	2.3%	77	2.6%	2,451	3.4%
Total	224	NA	1,065	NA	3,007	NA	73,075	NA
Journey to work - all methods (one method, two method, and three methods)								
Train	NA	0.0%	13	1.0%	15	0.5%	957	1.1%
Bus	3	1.0%	14	1.0%	32	1.0%	965	1.1%
Ferry	NA	0.0%	NA	0.0%	NA	0.0%	7	0.0%

	Hillsborough State Suburb (SSC11909)		Cardiff South State Suburb (SSC10811)		Warners Bay State Suburb (SSC14153)		Lake Macquarie LGA (LGA14650)	
Tram (includes light rail)	NA	0.0%	NA	0.0%	NA	0.0%	7	0.0%
Taxi	NA	0.0%	NA	0.0%	5	0.2%	62	0.1%
Car, as driver	240	78.4%	1,020	74.8%	2,444	74.1%	62,401	73.2%
Car, as passenger	14	4.6%	75	5.5%	144	4.4%	3,879	4.5%
Truck	3	1.0%	9	0.7%	26	0.8%	898	1.1%
Motorbike/scooter	NA	0.0%	6	0.4%	25	0.8%	519	0.6%
Bicycle	NA	0.0%	11	0.8%	13	0.4%	335	0.4%
Other	NA	0.0%	3	0.2%	8	0.2%	321	0.4%
Walked only	NA	0.0%	15	1.1%	50	1.5%	1,219	1.4%
Worked at home	9	2.9%	35	2.6%	130	3.9%	3,329	3.9%
Did not go to work	32	10.5%	139	10.2%	372	11.3%	9,577	11.2%
Not stated	7	2.3%	8	0.6%	22	0.7%	686	0.8%
Used public transport	3	1.0%	27	2.0%	47	1.4%	1,936	2.3%
Active transport	NA	0.0%	26	1.9%	63	1.9%	1,554	1.8%
SEIFA	Decile		Decile		Decile		Decile	
IRSAD decile (2016)	6		4		6		7	



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